EFFECTS OF *TARU,* A RADIO SOAP OPERA, ON AUDIENCES IN INDIA
A Quantitative and Qualitative Analysis

by

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Introduction

Taru, a 52-episode entertainment-education radio soap opera, was broadcast in the four Indian states of Bihar, Jharkhand, Madhya Pradesh, and Chattisgarh from February, 2002 to February, 2003[1]. Its purpose was to promote gender equality, small family size, reproductive health, caste and communal harmony, and community development.

The present consolidated report, employing both quantitative and qualitative methods, and compiled through the coordinated efforts of 18 project principals representing seven organizations (as indicated on the cover page), argues that synergistic possibilities for social action can emerge when entertainment-education radio broadcasts are strategically integrated with community-based group listening and locally-available health care services.

Organization of the Report

The present report on the effects of *Taru* is organized into two main sections. The first section presents the results from the quantitative analysis of *Taru*; the second section presents results from the qualitative analysis. Each section begins with a comprehensive executive summary.

The quantitative section includes four sets of reports, each representing a different method of data-collection and analysis.

The qualitative section includes three sets of reports, each of which (1) draws upon various sources of qualitative data, (2) is guided by an overarching theoretical

[1] *Taru* was later broadcast in the entire Hindi-speaking belt of North India from May, 2002 to May 2003.

framework of communication and social change; and (3) has already been published in a peer-reviewed outlet.

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OVERVIEW AND EXECUTIVE SUMMARY
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TARU PROJECT – QUANTITATIVE REPORTS[2]

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[2] The overall design and data-analysis of the *Taru* quantitative study was designed and led by Professor Kim Witte of Michigan State University and Johns Hopkins University in collaboration with Principal Investigator Professor Arvind Singhal of Ohio University, and doctoral students Nithya Muthuswamy and Desiree Duff of Michigan State University. Professor Witte deserves credit for compiling a complete draft version of quantitative reports #1, #2, and #3, which were then edited and revised by PI Arvind Singhal. Further, Singhal compiled (with considerable assistance from Mr. Akhilesh Kumar Sharma of Janani) a fourth quantitative report detailing the rise in service delivery statistics from four Titly Centers (that were part of our research site), as well as the present executive summary report.

We thank the following individuals and organizations for their collaboration, support, and conduct of the present research project: David Andrews and Kate Randolph of Population Communications International (PCI), New York; Gopi Gopalakrishnan, Arisingh Dutt, Shejo Bose, Neelam Vachani, Sourov Chowdhury, Pankaj Kumar Singh, Gopa Chatterji, Akhilesh Kumar Sharma, and Sushil Kumar of Janani in Patna, India (some of these individuals have moved from Janani since our collaboration); Karuna Shrivastav, Dr. Alka Kumar, and Kamal Dutt of All India Radio; Pandit Ram Dayal Sharma of Brij Lok Madhuri; P.N. Vasanti, Mumtaz Ahmed, Chetna Verma, Alok Shrivastav, and the wonderful team at field researchers of the Centre for Media Studies, New Delhi, India. This research was supported by a grant from PCI to Ohio University.

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Overview of the Quantitative Study

The purpose of this compilation is to present the results from the quantitative evaluation of the entertainment education radio soap opera, *Taru*, in Bihar, India. *Taru* was designed to promote gender equality, small family planning size, HIV/AIDS prevention, and inter-caste harmony.

The present quantitative report is a compilation of four separate yet interrelated quantitative reports, whose purposes are the following:

Quantitative Report #1: To accurately assess the degree of exposure to *Taru* through five bi-monthly sentinel site rapid exposure surveys between February, 2002 to February, 2003 (during the one year duration of *Taru*'s broadcasts).

Quantitative Report #2: To representatively assess the effects of *Taru* in Bihar State with a pre-post sentinel site survey in District Begusarai.

Quantitative Report #3: To compare through a four-group quasi experiment study the effects of more/less intensive on-air *Taru* broadcasts and ground-based activities of collaborating partner Janani on audience members before, during, and after the broadcasts of *Taru*.

Quantitative Report #4: To track the sales of Mithun condoms, Apsara oral contraceptive pills, and pregnancy dipsticks sold by Janani's rural health practitioners in four research sites during the time that *Taru* was broadcast in Bihar.

Executive Summary of Quantitative Report #1

Citation: Kim Witte, Arvind Singhal, P.N. Vasanti, and CMS Field Researchers (2003). *Assessing Degree of Exposure to Taru.* Athens, OH: Ohio University, School of Communication Studies.

In order to have a highly robust measure of "degree of exposure" to *Taru*, five tracking surveys with a screened sample were completed every two months[i] after Taru began broadcasting in February, 2002 in our sentinel research site of Begusarai District in Bihar (i.e., during April, June, September, November, 2002; and January, 2003).

Overall, from our five rounds of rapid exposure surveys, we estimate that about 10 percent of all households in the general population in Bihar, and 24 percent of households in the target population (those who owned a radio and were regular listeners) listened to *Taru.*

The five rounds of rapid surveys further indicate (1) that audience members liked *Taru* very much, with an average score of 4.55 on a scale of 1 to 5 (with 5 being highest), (2) that audience members perceived the *Taru*'s characters as being highly similar to them, with an average score of 3.26 on a scale of 1 to 4 (with 4 being highest), and (3) that audience members strongly considered behavior change as a result of listening to *Taru*, with a mean score of 4.56 on a scale of one to five (with five being high).

Executive Summary of Quantitative Report #2

Citation: Desiree Duff, Nithya Muthuswamy, Kim Witte, and Arvind Singhal (2003). *A Pre-Post Sentinel Site Survey in Bihar, India Assessing the Effects of Taru.* Athens, OH: Ohio University, School of Communication Studies.

A sentinel site survey was conducted with 1,500 households surveyed before *Taru* began (baseline survey) and 1,500 households surveyed after *Taru* ended (impact survey). The site for pre-post sentinel site surveys was District Begusarai in India's Bihar State, chosen to represent an "average district" in Bihar. Each sample was composed of 750 respondents randomly chosen from the sentinel site, and 750 households randomly selected and screened for their radio listenership habits. The screening questions were: (1) Do you own a working radio?, (2) Do you listen to this radio at least once a week?, and (3) Do you listen to radio soap dramas? A sample of 750 respondents that answered yes to all three questions comprised the screened sample. Results for assessing the final outcomes of listening to *Taru* were based on a comparison of the pre-post screened samples, given the low numbers of *Taru* listeners in the non-screened random sample.

Our results show that before *Taru* aired, respondents in the sentinel site area had significantly weaker beliefs about gender equity and family planning, and perceived greater barriers to achieve gender equity and small family size. Fewer people used certain family planning methods, and fewer people felt that their friends and family members approved their use of family planning methods. However, respondents in the sentinel site area one year after the broadcast of *Taru* displayed significantly stronger outcomes on these key variables. The most promising results are the following:

Taru appeared to have a significant and consistent effect on gender equality perceptions. After *Taru* aired, respondents held significantly stronger gender equality beliefs.

Another goal of *Taru* was to increase modern family planning method usage and associated beliefs and attitudes. In this case, the post-broadcast *Taru* sample performed much better on these variables as compared to the pre-broadcast *Taru* sample. Specifically, awareness of various modern family planning methods increased significantly after the year-long broadcast of *Taru*. After *Taru* aired, perceived approval from friends on family planning issues increased. The post-broadcast *Taru* sample reported an enormous rise in the usage of Apsara oral contraceptive as compared to the pre-broadcast *Taru* sample. Similarly, the use of modern family planning methods (with the exception of vasectomy) significantly and consistently increased after the one-year broadcasts of *Taru*. Perceived barriers to family planning methods were significantly and consistently lower across several items after *Taru* aired as compared to the previous year. Similarly, perceived quality of family planning services and knowledge about where to go to get family planning services increased significantly from pre-*Taru* to post-*Taru* time-periods. After the airing of *Taru*, awareness of Surya clinics increased significantly, as did the perception that Surya Clinic services were of high quality and trustworthy.

Finally, another goal of *Taru* was to affect certain community level variables. Indeed, the pre-post sentinel site data shows that perceived collective empowerment significantly increased among respondents who listened to *Taru*. Similarly, several social capital variables were influenced in the desired direction such that post-*Taru* respondents felt that their communities displayed greater degrees of social capital when compared to the pre-*Taru* respondents.

There are several limitations to the analysis presented above. The changes pre and post-*Taru* may have been due to historical or other unanticipated trends. However, examining the dose response relationship while controlling for demographic and psychographic variables may eliminate some of these threats to validity. Further, this

study's findings form part of the overall picture illuminating the effects of *Taru*. This pre-post sentinel site analysis suggests strong and consistent findings for key variables such as gender equity beliefs and use of modern family planning methods– although significant threats to validity exist. With other studies of *Taru* pointing to similar findings, the preponderance of evidence seems to imply that the radio serial drama *Taru* had strong pro-social effects in Bihar.

Executive Summary of Quantitative Report #3

Citation: Nithya Muthuswamy, Desiree Duff, Kim Witte, and Arvind Singhal (2003). *A Four-Group Quasi-Experiment to Assess the Effects of On-the-Air and Ground-Based Activities on Taru Respondents.* Athens, OH: Ohio University, School of Communication Studies.

The purpose of this four group quasi-experiment study was to compare the effects of more/less intensive on-air and ground-based activities on audience members before, during, and after the broadcasts of *Taru*.

The four groups included:(1) a control group (C) with no on-air or ground-based exposure to any *Taru*-related activity, (2) a *Taru*-only group (labeled "T") with only on-air exposure to *Taru's* broadcasts, (3) a *Taru*-plus-Janani group (labeled "J+") with on-air exposure to *Taru's* broadcasts plus limited ground-based activities, including the presence of a local Janani-networked Titly Center and a rural health practitioner (RHP), and on-ground pre-broadcast publicity of *Taru* through posters, stickers, and flyers, and (4) a *Taru*-plus-highly orchestrated Janani group (labeled "J++") with on-air exposure to *Taru's* broadcasts plus intensive ground-based activities, including the presence of a local Janani-networked Titly Center; on-ground pre-publicity of *Taru* through posters, stickers, and flyers; conduct of *Taru* folk performances prior to the launch of *Taru*; multiple established *Taru* listening groups; and a highly visible rural health practitioner (RHP) who facilitated the activities of the listening groups, including the maintenance of a *Taru* listeners' club diaries.

Our findings corroborated that the higher the intensity of the on-air/on-ground intervention, the higher the percent of respondents who knew about *Taru's* messages, and higher the numbers of those who actually listened to *Taru*. Post-broadcast surveys indicate that listenership to *Taru* was 4.3 times higher among the J++ group as compared to the J+ group, and 13 times higher in the J++ group as compared to the *Taru*-only (T) group. Further, listenership in the J+ group was 3 times higher than in the T group. This, unequivocally, points to the value that intensive ground-based orchestration adds to the on-air component.

Further, in the J++ group listenership increased with the passage of time: Listenership in the post-broadcast survey was 2.2 times higher than in the mid-broadcast survey. Across the same time period, listenership was constant in the J+ group, and up marginally in the T group. This suggests that in environments where there is enhanced "buzz" about an entertainment-education initiative, some listeners get on the soap opera train, perhaps through the goading of other regular listeners.

Further, our findings suggest that *Taru* spurred a great deal of interpersonal communication among audience members, and also between audience members and their spouses, children, relatives, and friends, who were not "directly" exposed to radio program, but who had heard about the program and its contents. The post-broadcast surveys suggest that almost 1.8 times the number of people in the J++ group had heard about *Taru* compared to those who had listened to *Taru*, and almost 4.3 times the number of people in the J+ group had heard about *Taru* compared to those who had listened to

Taru. This finding suggests that the message of *Taru* was diffused via interpersonal channels.

Overall, our four group quasi-experiment study, suggests that *Taru* as a radio program was universally liked, thought to be realistic, of high production and story quality, and had likeable characters with whom audience members identified with. One of the most notable limitations of this qusi-experiment study was the few numbers of actual listeners of *Taru* in each of the four groups. Though the perceptions and behaviors of *Taru* listeners were extremely positive and in accordance with program goals, the small numbers of actual listeners was very small so we cannot say with confidence whether or not the results are generalizable to the general population. However, the results of the quasi-experiment seem to be consistent with results from other quantitative analysis, which elevates our confidence in the present findings.

Executive Summary of Quantitative Report #4

Citation: Arvind Singhal with Akhilesh Kumar Sharma (2003). *Sales of Condoms, Pills, and Pregnancy Dipsticks at Titly Centers in Villages where pre-Program Publicity was Orchestrated and Taru Listening Groups Were Established.* Athens, OH: Ohio University, School of Communication Studies.

> The present report details the quantities of Mithun condoms, Apsara oral contraceptive pills, and pregnancy dipsticks that were sold by rural health practitioners (RHPs) in four villages of Bihar State, where group listening to *Taru* was orchestrated in advance and by design, and where Janani's RHPs, including their Titly Center (rural health clinics) and their services were highly promoted.

While our present methodology does not permit us to draw direct causal connection between the broadcasts of *Taru* and the increase in sales of condoms, pills, and pregnancy dipsticks in these four villages, our findings from the qualitative studies conducted in these four villages (Singhal et al. 2004, Harter et al., in press; and Papa et al., 2004) suggest that group listening to *Taru* spurred communication among community members about the need for girl's education and small family size, helping create a more enabling environment for villagers to seek services offered by the local Titly Centers. Our qualitative findings also suggest that the enhanced visibility of the local RHP and WHP as a result of the various *Taru*-related pre-publicity and orchestration activities (including the organizing of the folk performances, handing out the transistor-radio awards to listening group members, etc.) led more villagers to seek their services.

Overall, sales of Mithun condoms increased over 227 and 680 percent, respectively, in Abirpur and Kamtaul villages (in Madhopur and Chandrahatti, condom

sales increased significantly during the first nine months of *Taru*'s broadcasts and then dropped down to about the original baseline levels).

Also, sales of Apsara pills increased over 200, 580, 400, and 420 percent, respectively, in Abirpur, Kamtaul, Madhopur, and Chandrahatti villages.

Finally, sales of pregnancy dipsticks increased 167, 600, 400, and 200 percent, respectively, in Abirpur, Kamtaul, Madhopur, and Chandrahatti villages.

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TARU PROJECT – QUANTITATIVE REPORT #1

Assessing Degree of Exposure to *Taru*

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Assessing Degree of Exposure to *Taru*

Entertainment-education (E-E) researchers increasingly realize the importance of having more robust measures to assess audience members' "degree of exposure" to the E-E intervention A reliable measure of the audience members' "degree of exposure" to an E-E intervention is essential, given its centrality as an independent variable to predict audience effects (Hornik, Gandy, Wray, & Stryker, 2000). In audience surveys, respondents are usually asked about the extent to which they have been exposed to the E-E intervention (whether a soap opera, or a mini-series, or some other genre), and data are recorded in terms of the number of episodes heard or seen, or perhaps on an ordinal scale of low, medium, or high exposure. Such one-time, post-broadcast self-reports to a general exposure question may be unreliable (Singhal & Rogers, 2002).

In order to have more robust measures of "degree of exposure" to *Taru*, five tracking surveys with a screened sample were completed every two months[ii] after Taru began broadcasting in February, 2002 in our sentinel research site of Begusarai District in Bihar (i.e., during April, June, September, November, 2002; and January, 2003). This rapid exposure assessment allowed us to accurately estimate the percentages of targeted households exposed to *Taru* in the sentinel site district and compare these to the sentinel site data (reported later).

The target audience for *Taru* was those people who owned a radio and regularly listened to it. However, people who regularly listen to a radio represent a subset of the total population. Therefore, it would not be appropriate to do a random sample of the

whole population to assess exposure (or even impact) because only a subset of the population is expected to be exposed to the program. Therefore, the rapid assessments to assess exposure took place with a screened population that answered in the affirmative for the following three questions: (1) Do you own a radio?, (2) Is it in working condition?, and (3) Does anyone in your household who is above 15 years listen to the radio at least once a week?

Research Design

Five randomly selected samples, n = 200 each for a total of n = 1,000, took part in the rapid tracking survey in the sentinel site. There was no overlap in respondents for any of the five rapid assessment surveys. Following is an illustration of the design.

O_1	X	O_2	X	O_3	X	O_4	X	O_5
n=200		n=200		n=200		n=200		n=200
April		June		Sept.		Nov.		Jan '03

O_1 = Observation I – First rapid exposure assessment, completed April, 2002.
X = Intervention – episodes of *Taru*
O_2 = Observation II – Second rapid exposure assessment, completed June, 2002.
X = Intervention – episodes of *Taru*
O_3 = Observation I – Third rapid exposure assessment, completed September, 2002.
X = Intervention – episodes of *Taru*
O_4 = Observation II – Fourth rapid exposure assessment, completed November, 2002.
X = Intervention – episodes of *Taru*
O_5 = Observation II – Fifth rapid exposure assessment, completed January, 2003.

Sample

The sample is at the household level, composed of all residents aged 15-49 in that household. Household dwellers are defined as those who claim the household as the

place they live in, i.e., sleep, eat, and conduct daily activities from the majority of the time. Household dwellers were distinguished from visitors.

Procedures

Each household was randomly selected from the universe of households in Begusarai District of Bihar (the sentinel site district) and then was screened for radio ownership and listenership. Enumerators were asked to keep track of answers to each of the screening questions so that the percentage of radio listeners could be calculated from the random population sample.

A household was eligible for the survey only if they answered yes to all three screening questions. Upon securing consent and entering a household, all persons in our age range (15-49) were gathered for the survey. Therefore, it was a true household level survey (representing the exposure from the entire household).

The rapid exposure assessments were conducted immediately after the *Taru* episodes were broadcast, to reduce forgetting of exposure to the show and any other memory errors that might be introduced due to a time delay. Once the household was eligible for the survey, the following seven questions were asked:

1. Did anyone listen to the radio today ?

1a. If yes, what did you listen to?

2. Did anyone listen to a radio serial named *Taru*.

3. What happened today on *Taru*? (Recall key messages)

4. To what extent if any do you like the show?

5. To what extent if any, are *Taru's* characters similar to you?

6. Will you make changes in your behaviors because of listening to *Taru*?

7. Now, can you please tell me, have you listened to the serial *Roshni ke Paon*?

Why was the 7th question asked? In any study, there is a possibility that respondents will answer in the affirmative when asked if they heard a specific show, because of demand characteristics and social desirability (i.e., they assume the correct answer is "yes" or they want to please the interviewer). Because of this possibility, the rapid survey asked respondents if they have listened to a fictional drama, called *Roshni ke Paon*. The responses to this item should give us an error estimate of people who think they listened to a program (like *Taru* or Roshni ke Paon), but didn't. The false positive rate of those who thought they listened to a fictional radio drama ranged from 0 percent to 5 percent in our five surveys, indicating a very low error rate.

Consolidated Summary of Five Rounds of Rapid Exposure Surveys

Here we summarize the findings across the five waves of rapid assessments of exposure to *Taru*. Over the five waves, a total of 2,277 households were screened in order to yield the 1,032 participants (roughly 200 per wave) in the rapid assessments who said they owned a working radio and had listened to it at least once a week. These figures suggest that approximately 43 percent of persons in the region surveyed had a working radio that they listened to once a week or more.

Table 1 shows the percentage of persons by age and round of survey that listened to the radio the day of the interview. This table suggests that the younger the person, the more likely she or he was to listen to the radio. An exception to this trend is the age group 51 years and older, which in three cases had higher listener rates than people in their middle age.

Table 1. Percentage of respondents who listened to radio the day of the interview.

Age group	Round 1 n=200	Round 2 n=207	Round 3 n=202	Round 4 n=209	Round 5 n=214	Average across Rounds
15-20 Yrs	26%	18.8%	23%	27.2%	29.3%	25%
21-25 Yrs	18%	18.4%	19%	16.2%	12.2%	17%
26-30 Yrs	15%	13.1%	14%	10.8%	20.4%	15%
31-35 Yrs.	12%	9%	8%	13.5%	13.4%	11%
36-40 Yrs	7%	10.1%	9%	32.3%	10%	14%
41-45 Yrs.	6%	5.7%	9%	0	5.2%	5%
46-50 Yrs.	5%	7%	7%	0	4.5%	5%
51 and above	11%	17.9%	11%	0	5%	9%
Total	100%	100%	100%	100%	100%	100%

Exposure to *Taru*

Exposure to *Taru* ranged from a low of 16 percent to a high of 31 percent during the five rounds of exposure assessment (Table 2). On average 24 percent of households reported listening to *Taru*. This figure suggests that nearly a quarter of our focal audience (i.e., those who listened to radio programs) was probably exposed to *Taru*.

When extrapolated to the general population, exposure to *Taru* can be estimated to be about 10 percent of the entire population.

Table 2 also summarizes responses to the specific rapid survey questions across the five waves of the exposure tracking surveys. As a test to assess if respondents truly listened to *Taru*, the interviewers asked what happened on that day's show. An average of 73 percent of respondents could correctly remember program specifics. In addition, the error rate of those reporting they heard a fictional program was extremely low, averaging 2.4 percent of all respondents across the five rounds. Liking of the show was very high, with an average score of 4.55 on a scale of 1 to 5 with 5 being highest. Perceived similarity was similarly high on a scale of 1 to 4 (with 4 being high) with a mean score of 3.26, indicating that respondents believed they were relatively similar to the show's characters. Arguably the most important variable, reported behavior change as a result of listening to *Taru*, suggested a strong impact of the show on behavior, with a mean score of 4.56 on a scale of one to five with five being high.

Table 2. Summary of responses across the five waves of rapid exposure surveys.

	Round 1	Round 2	Round 3	Round 4	Round 5	Averages
% Households (HH) that listened to *Taru*	22.5% (45 HH/ 200 HH)	19.8% (41 HH/ 207 HH)	30.7% (62 HH/ 202 HH)	16.3% (34 HH/ 209 HH)	29% (62 HH/ 214 HH)	23.66%
Of HH that listened to *Taru*, Avg # of persons per HH who listen to *Taru*	1.24	1.07	1.0	1.4	1.02	1.15
% of *Taru* listeners who remembered episode specifics	30.4%	57%	100%	93.6%	83%	72.8%

Liking of the Show—Mean Score*	4.73 (.69)	4.28 (.46)	4.48 (.62)	4.75 (.44)	4.53 (.59)	4.55 (.56)
Perceived Similarity to the Show's Characters – Mean Score**	3.13 (.80)	3.41 (.73)	3.27 (.69)	3.09 (1.0)	3.4 (.67)	3.26 (.78)
Behaviour Changes Due to the Show – Mean Score***	4.39 (.90)	4.83 (.47)	4.37 (.83)	4.81 (.47)	4.39 (.58)	4.56 (.65)
% Error Rate (Listen to Fictional Show)	5.4%	2.3%	1%	0%	3.2%	2.4%

*On a scale ranging from "1"- "I hate it" to "5" – "I like it very much"
**On a scale ranging from "1" – "Nothing like me" to "4" – "Just like me" ("don't remember" responses were dropped)
***On a scale ranging from "1" – "Strongly Disagree" to "5" – "Strongly Agree"
HH = Household

Conclusions

Overall, from our five rounds of rapid exposure surveys, we estimate that about 10 percent of all households in the general population, and 24 percent of households in the target population (those who owned a radio and listened to it) were exposed to *Taru.* The rapid surveys further indicate that audience members' feedback on *Taru* in terms of liking the program, their perceived similarity with the program's characters, and their self-reported behavioral change as a result of listening to the program, remained high across the five waves.

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TARU PROJECT – QUANTITATIVE REPORT #2

A Pre-Post Sentinel Site Survey in Bihar, India Assessing the Effects of *Taru*

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A Pre-Post Sentinel Site Survey in Bihar, India Assessing the Effects of *Taru*

A sentinel site survey was conducted with 1,500 households surveyed before *Taru* began (baseline survey) and 1,500 households surveyed after *Taru* ended (impact survey. Each sample was composed of 750 respondents randomly chosen from the sentinel site, and 750 households randomly selected and screened for their radio listenership habits, in the following manner:

SAMPLE		DESIGN	
General random sample, n= 750	O_1	X_{1-52}	O_2
Screened random sample, n= 750	O_1	X_{1-52}	O_2

O_1 = Observation I – Baseline Survey (completed before *Taru* began in early February, 2002)
X_{1-52} = Intervention (52 episodes of *Taru*)
O_2 = Observation – Impact Survey (completed after *Taru* finished its broadcasts in March 2003)

Sentinel Site Selection

The site for pre-post sentinel site surveys was District Begusarai in India's Bihar State, chosen to represent an "average district" in Bihar. District Begusarai, according to the 2001 census figures, has a population of 2.4 million people of which 95 percent lives in rural areas (Population Foundation of India [PFAI], 2002, p. 58)). District Begusarai ranked 534 among all 590 Districts of India in the Reproductive Health Composite Index. Its sex ratio is 911 women to 1000 men; its male literacy rate is 60 percent and female literacy rate is 36 percent; some 59 percent of the girls here get married before the legal age of 18; its total fertility rate (TFR) is 5.4; its contraceptive prevalence rate (CPR) is 23 percent among all eligible couples; only 16 percent of its children are completely immunized; and 69 percent of its children are underweight.

Sample Selection

Two random samples of 750 persons were selected from the sentinel site district, for a total sample size of n = 1,500. First, 750 respondents were randomly selected from the general population of the district. Second, randomly selected respondents were screened with three radio listenership questions until a sample of 750 respondents answering yes to all three questions was achieved. The screening questions were: (1) Do

you own a working radio?, (2) Do you listen to this radio at least once a week?, and (3) Do you listen to radio soap dramas?

If a respondent answered yes to all three screening items, then the survey was continued. This screening process was important because in any representative sample only a small portion of the respondents will be *Taru* listeners (estimated from our rapid exposure surveys at about 10 percent). Because we wanted to have an adequate sub-sample of *Taru* listeners with which to perform analysis on the effects of *Taru*, we screened for the target audience of *Taru* – that is, people who listened to radio dramas.

Only one person per household was interviewed so that the sample responses remained independent. Upon randomly selecting a household, an inventory of all eligible persons was taken, and a respondent from a household was selected randomly. The survey was implemented within three weeks or less of the airing of the last episode of *Taru*.

Survey Instruments

Recognizing the constraints of the sample size and the time needed to administer surveys, the survey was composed of mostly single-item measures. However, the items for the survey were carefully selected from other validated scales and previous studies in order to adequately measure constructs of interest. The survey was pilot-tested by researchers of the Center for Media Studies, translated from English to Hindi, refined to capture original meaning, and then implemented.

Results

Baseline and post-broadcast (impact) surveys were conducted at the sentinel site with both a randomly selected and a screened sample. While respondents from the district of Begusarai were selected for both surveys, respondents for the screened survey were selected, as noted previously, only if they met the additional criteria of owning a working radio, listening to that radio at least once a week, and listening to radio soap drama.

The demographic description that follows compares respondents from this follow-up survey of the screened sample to respondents from the follow-up survey of the random sample. Following the comparison of post-*Taru* random and screened respondents, a second comparison is made between pre-*Taru* and post-*Taru* screened respondents. A rationale is provided for assessing final outcomes based only on a comparison of the screened samples. After the demographic comparison is presented, various *Taru* outcomes such as respondents' perceptions of the radio serial, and their perceptions, attitudes and behaviors concerning gender equality, family planning, social norms,

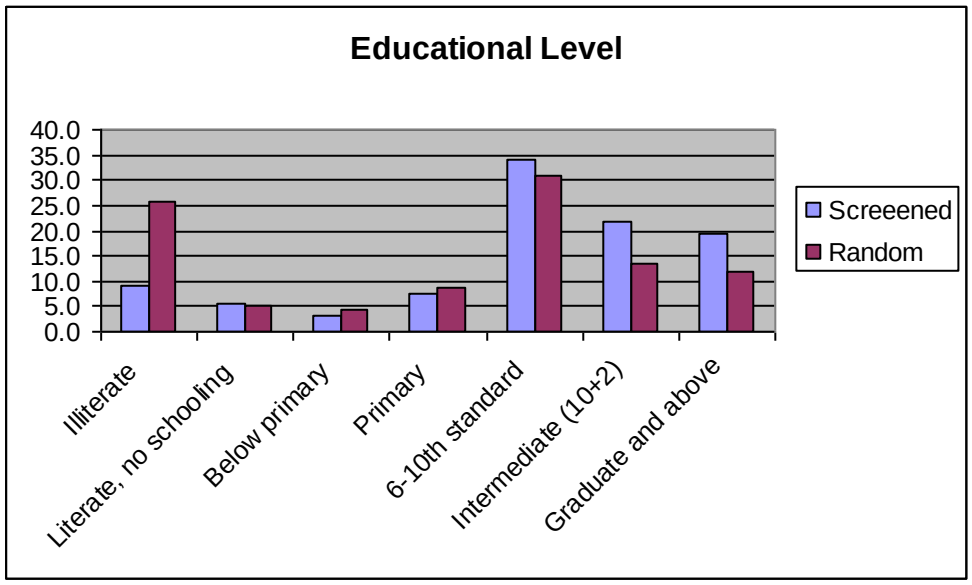
individual and community empowerment, and Janani's service delivery apparatus are reported.

Comparing Random and Screened Respondents on the Post-Test Sentinel Site Survey

Respondent Background

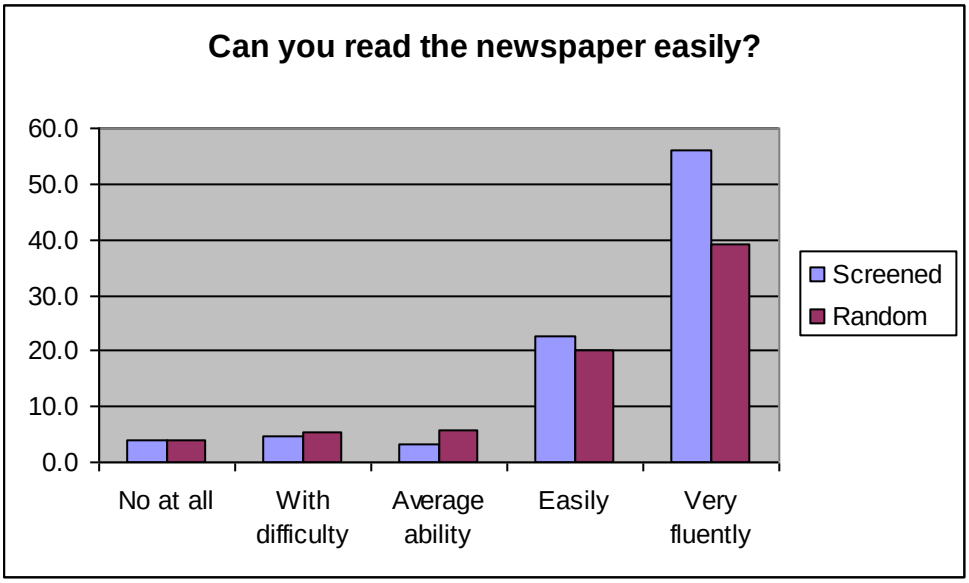
The screened sample of 764 respondents was slightly larger than the random sample of 752 respondents. The two samples differed in relation to respondent sex, $\chi^2(1, N = 1516) = 43.905$, $p = .001$; males (58.5%) outnumbered females (41.5%) in the screened sample while females (41.5%) outnumbered males (58.5%) in identical proportions in the random sample. While both samples ranged in age from 15 to 49, the screened sample (27.89 years) averaged approximately a year younger than the random sample (29.06 years); this difference was statistically significant, $t(1514) = -2.79$, $p = .005$.

Screened respondents were more likely to be educated than were random respondents, $\chi^2(6, N = 1516) = 93.479$, $p = .001$. Less than one-tenth of screened respondents (9%) were illiterate while one-fourth of the random respondents (25.8%) were illiterate. In addition, three-fourths of the screened sample had at least a 6th standard education while just over half of the random sample (56.2%) had achieved that level of education. Please see the chart below.

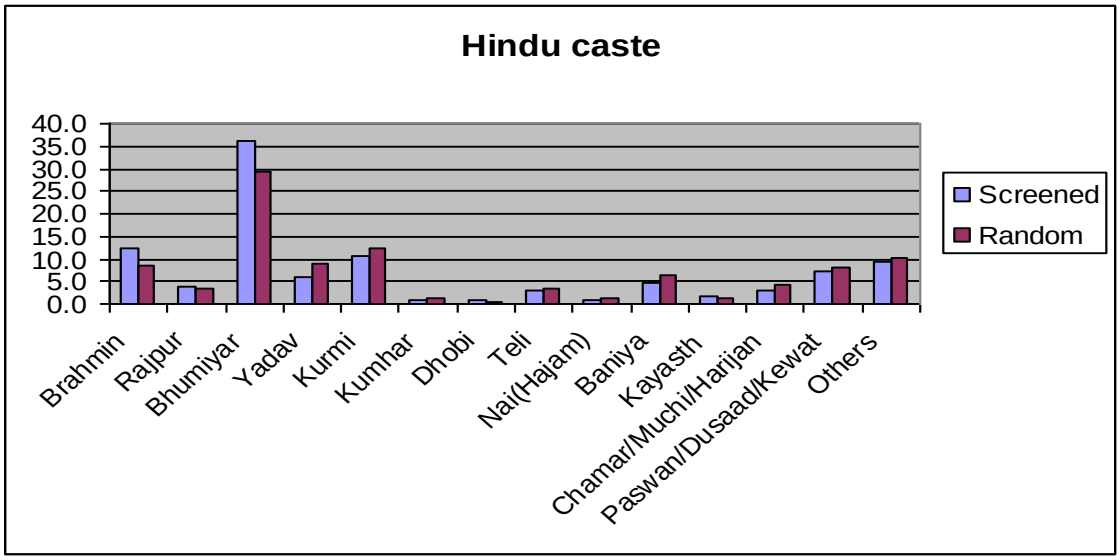


Screened respondents were more likely than random respondents to report that they could easily read a newspaper, $\chi^2(5, N = 1516) = 90.044$, $p = .001$. Of those who

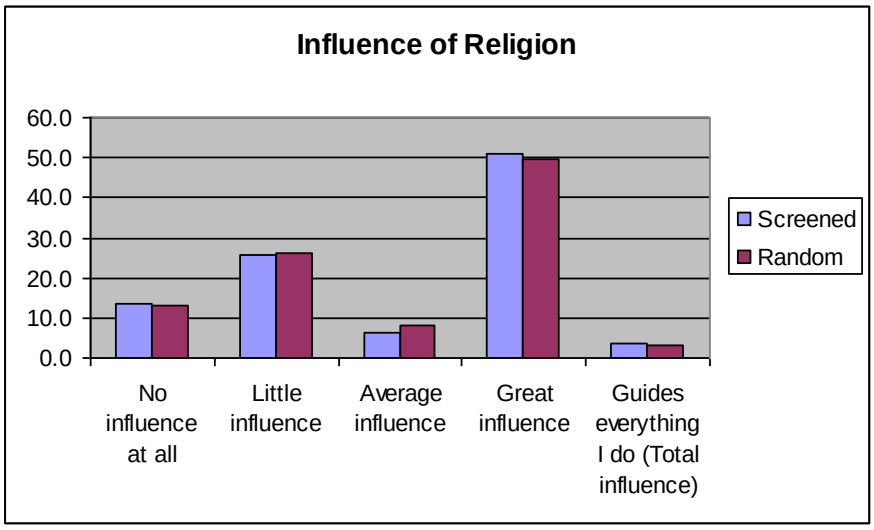
were literate, almost eight in ten screened respondents (78.7%) indicated that they could read the newspaper easily or very fluently while only six in ten random respondents (59.1%) indicated that they could read the newspaper easily or very fluently. Please see the chart below.



For both samples, almost all respondents identified themselves as Hindu, with 1.2% of screened sample and 2.4% of the random sample identifying themselves as Islamic. Although differences regarding caste were observed between the two groups, $\chi^2(23, N = 1483) = 41.340$, $p = .011$, the caste most represented by Hindu respondents in both samples was Bhumiyar (screened = 35.7%, random = 28.5%), followed by Brahmin (12%) and Kurmi (10%) for screened respondents, and by Kurmi (12.1%), Yadav (8.8%), and Brahmin (8.4%) for random respondents. Please see the chart below.

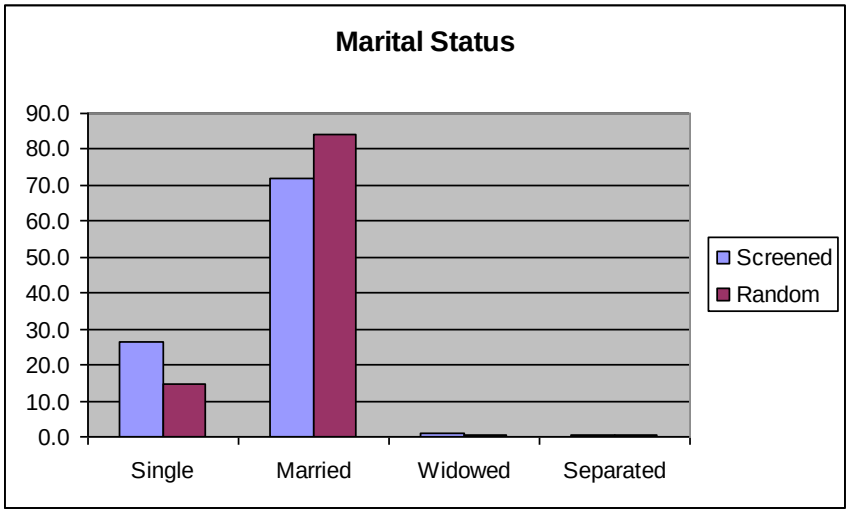


Respondents in the two samples were similar in their responses about the degree of influence their religion had on their activities. About five in ten respondents (screened = 54.5%, random = 52.9%) indicated that their religion either had a great influence on their lives or guided everything they did, while about four in ten individuals (screened = 39.3%, random = 39.1%) indicated that religion had little or no influence on their lives. Please see the chart below.

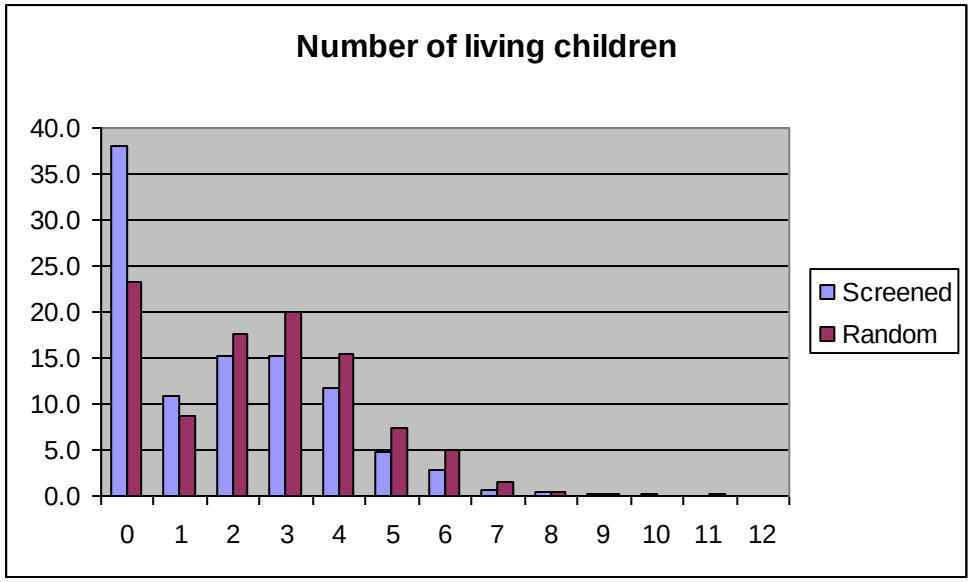


Screened respondents were less likely to be married than were random respondents, $\chi^2(3, N = 1516) = 33.808$, $p = .001$. More than seven out of ten screened respondents (71.9%) and more than eight out of ten random respondents (84.2 %) indicated that they were married. Thus, the screened sample was composed of more

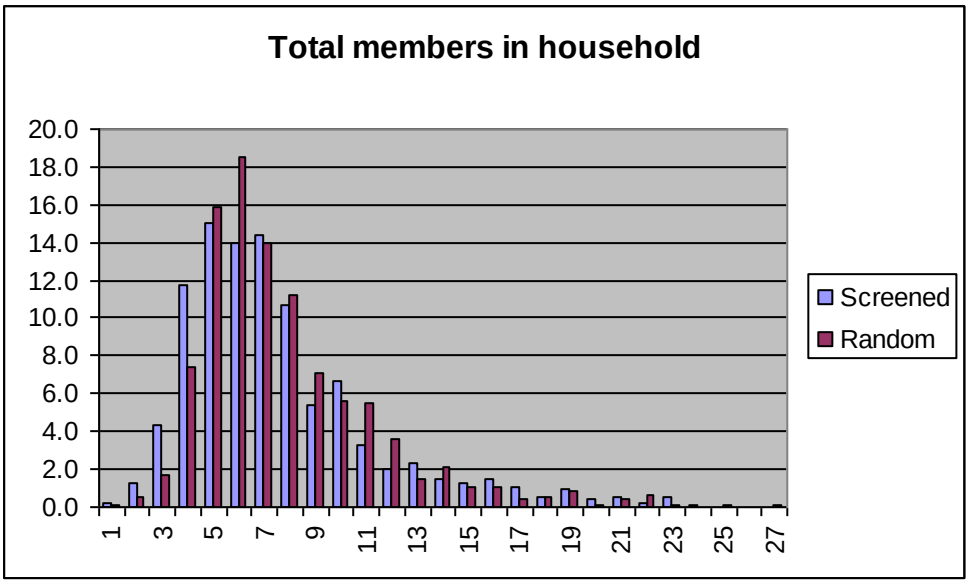
single (26.4%), widowed (1%), or separated (.7%) respondents than was the random sample (single = 14.6%, widowed = .7%, separated = .5%). Please see the chart below.



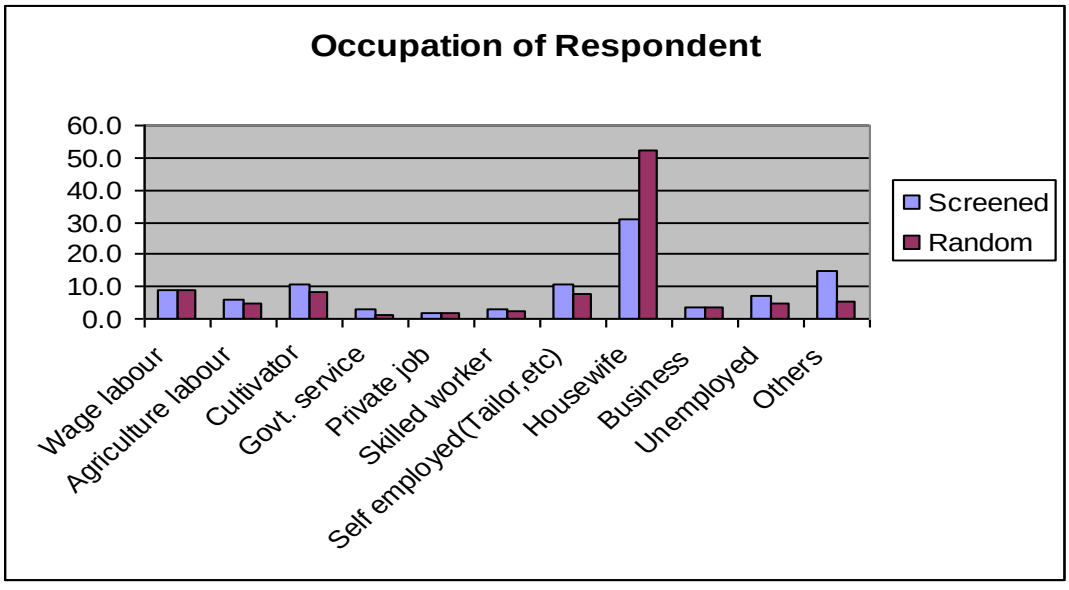
Respondents in the screened sample had significantly fewer living children (M = 1.86) than did individuals in the random sample (M = 2.52), $t(1514) = -6.67$, $p < .001$. In addition, the screened sample consisted of more respondents with no children (38%) than did the random sample (23.3%). Please see the chart below.

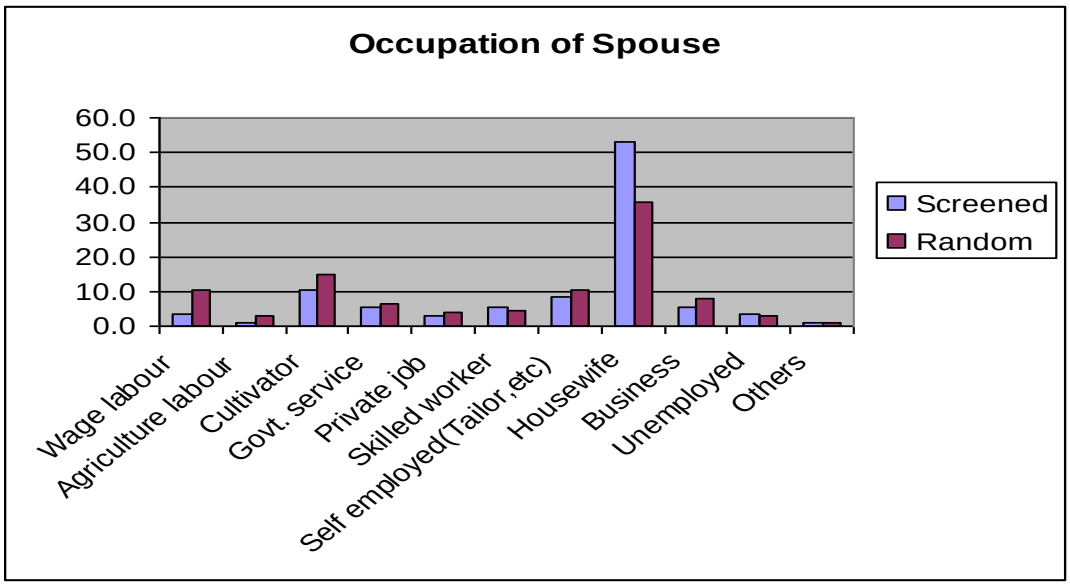


The two samples did not have observable differences in the make up of the household, (screened, M = 7.61; random, M = 7.85). The vast majority of respondents in both samples identified the head of household as male (screened = 97.5%, random = 96.3%). Please see the chart below.

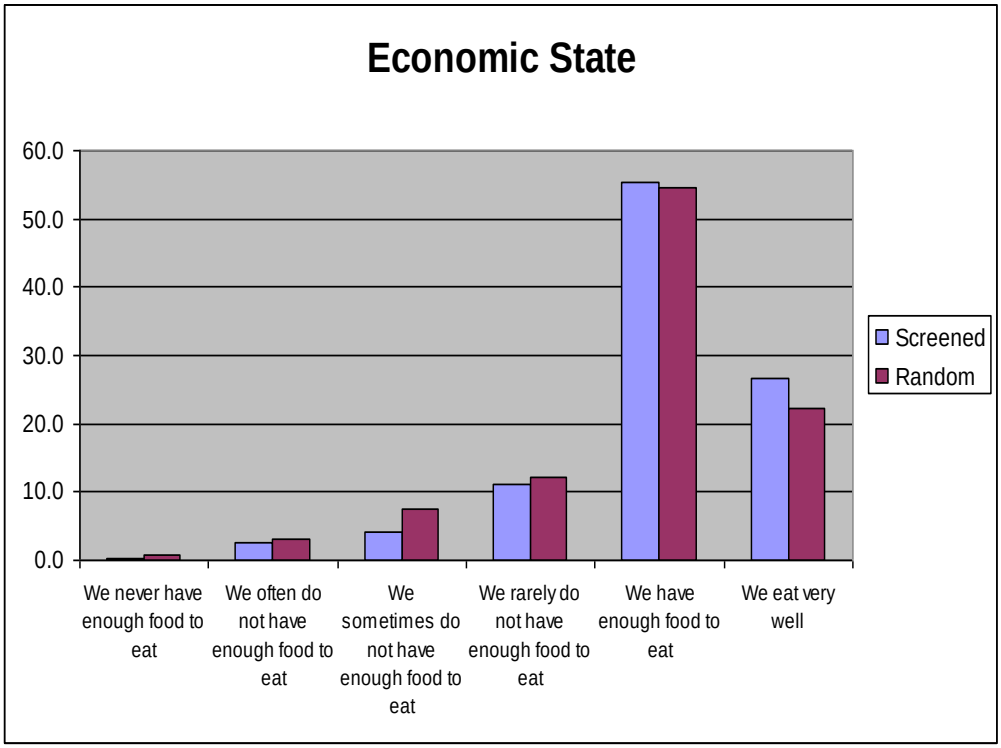


Screened respondents differed from random respondents in terms of their occupations, $\chi^2(10, N = 1516) = 96.482, p = .001$. While three in ten screened respondents were housewives (30.9%), more than five in ten random respondents were housewives. Other frequently reported occupations of screened respondents were "other" (14.8%), self-employed (10.9%), and cultivator (10.7%); primary occupations of random respondents included wage labor (8.8%) and cultivator (8.1%). Please see the charts below.



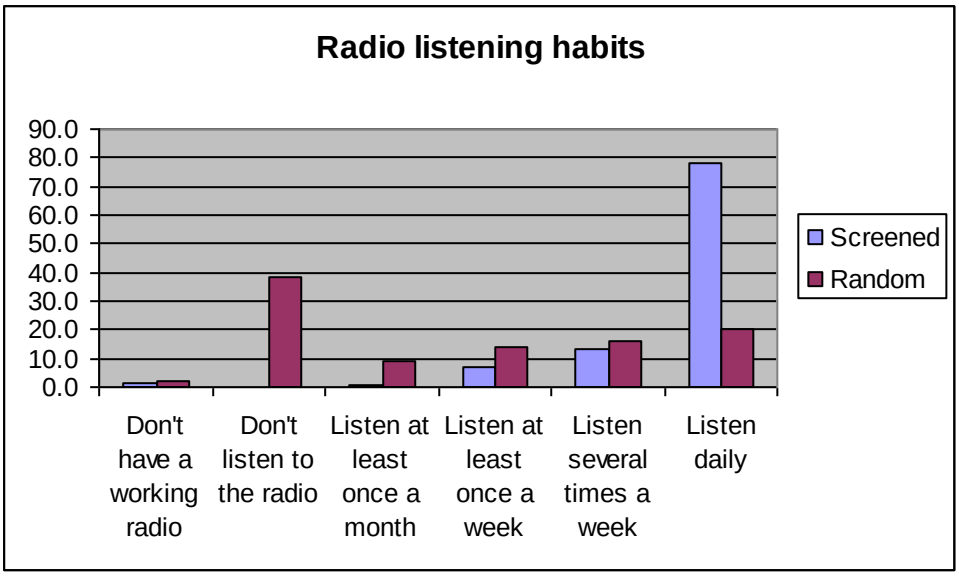


Screened and random samples were significantly different in household income, $t(1514)$ 2.972, $p = .003$. The screened sample average income (3,996.99 rupees) was higher than that of the random sample (3,425.96), with a median income for screened respondents of 2500 rupees and a median income of 2000 rupees (i.e., 50% of households fell below 2500 rupees for screened and 2000 rupees for random). Screened respondents were more likely than random respondents to report that they had a good financial state, $\chi^2(5, N = 1516) = 14.063$, $p = .015$, though more than three-fourths of respondents in both the screened (82.1%) and random (76.7%) samples indicated that their financial state was good by reporting that they either had enough food to eat or ate very well. Please see the chart below.

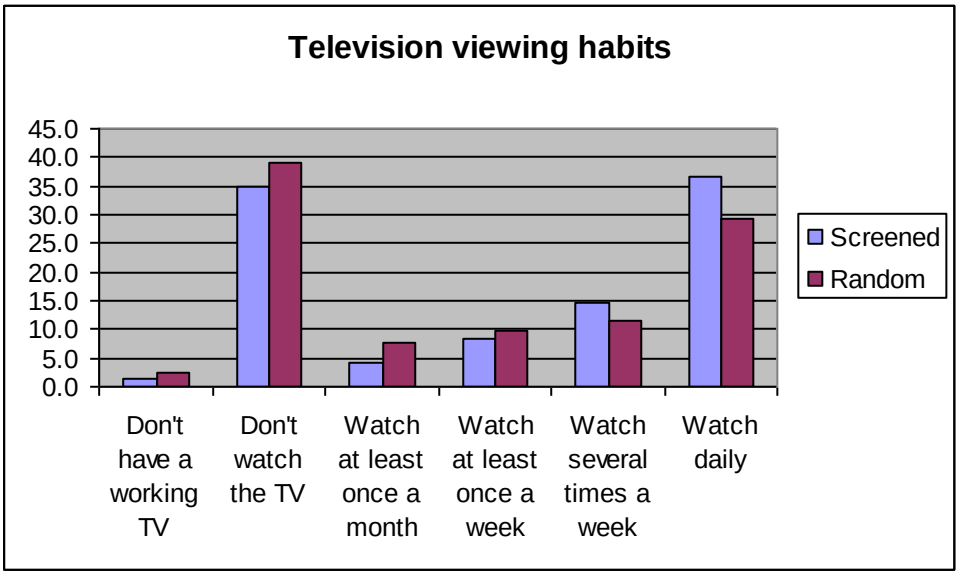


Viewing/Listening Habits and Radio Serials

Screened and random respondents differed in their radio listening habits, $\chi^2(5, N = 1516) = 28.916$, $p = .001$. Almost eight out of ten screened respondents (78%) listened to the radio daily, while only two out of ten random respondents (20.2%) were daily listeners. In addition, nearly four out of ten of the random respondents reported that they do not listen to the radio. No screened respondents indicated that they didn't listen to the radio, which makes sense in light of the criteria for the screened sample. Please see the chart below.



Screened and random samples also differed in their television viewing habits, $\chi^2(5, N = 151) = 20.604$, $p = .001$. Just over one-third of respondents in each sample (screened = 34.8%, random = 39.1%) indicated that they didn't watch television, while about five in ten screened respondents and four in ten random respondents said that they watched television either several times a week or daily. Please see the chart below.



Large differences between samples were evident when respondents were asked about their familiarity with specific radio programs. Almost nine out of ten screened respondents (89.4%) had heard of the radio program, *Ka Karoo Janani*, while only

slightly more than one out of ten random respondents (12.2%) had heard of the serial, $\chi^2(1, N = 1516) = 903.064$, $p = .001$. Likewise, half of the screened sample (50.3%) had heard of the radio drama, *Taru*, in comparison to only one out of twenty members of the random sample (4.9%), $\chi^2(1, N = 1516) = 388.425$, $p = .001$. When asked about a fictitious program, *Mere Humsafar*, individuals in the screened sample (10.3%) were more likely than individuals in the random sample (4.3%) to say that they had heard of it, $\chi^2(2, N = 151) = 20.70$, $p = .001$. In addition, 7.6% of screened respondents and 3.2% of random respondents reported that they not only had heard of it, but also had listened to it.

Finally, of particular importance to the outcomes of this study is the number of respondents who indicated that they had listened to at least one episode of *Taru*. As stated previously, only 4.9% (n=37) of the random sample had ever heard of *Taru*. Of those in the random sample who had heard of the program, only seven persons (of the 37 who had heard of it) reported that they had listened to at least one episode of the program. Of the screened sample, 50.3% (384 out of 764) said they had heard of *Taru* and of those who had heard of the program, 64% (244/384) reported listening to at least one episode.

Because the number of *Taru* listeners from the random data set is so small, all further data analysis will be conducted with the screened sample only, where a critical mass of participants reported listening to at least one episode of *Taru* (n = 244). Therefore, all pre-post differences for the effects of *Taru* will be with the screened sample only.

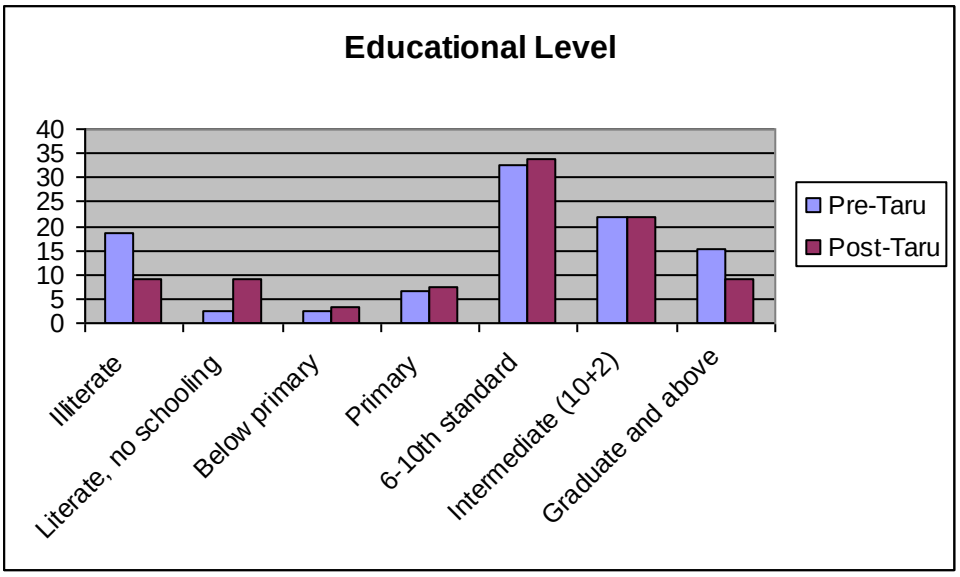
Pre-Post Sentinel Site Surveys Assessing the Effects of *Taru*

As previously discussed, respondents from the district of Begusarai were selected for the pre-broadcast and post-broadcast screened surveys only if they met the criteria of owning a working radio, listening to that radio at least once a week, and listening to radio soap drama. The analysis that follows first compares the two screened samples (pre and post-*Taru*) on a number of demographic variables and then reports outcomes based on a comparison of the two samples.

Respondent Background

The size of the pre and post screened samples was similar; the pre-*Taru* sample (N=751) consisted of 13 fewer respondents than the post-*Taru* sample ($N = 764$). Males (pre-*Taru* = 54.5%, post-*Taru* = 58.5%) outnumbered females in both samples (pre-*Taru* = 45.5%, post-*Taru* = 41.5%). Aside from these demographics, the two samples tended to differ. While both samples range in age from 15 to 50, the average age of a pre-*Taru* respondent (M = 29.32) was significantly older than the average age of a post-*Taru* respondent (M = 27.89), $t(1513) = 3.32$, $p = .001$.

The educational level of the pre-*Taru* sample was significantly lower than that of the post-*Taru* sample, $\chi^2(6, N = 1515) = 37.367$, $p = .001$. Twice as many pre-*Taru* respondents (18.6%) as post-*Taru* respondents (9%) were illiterate. Approximately 70% of pre-*Taru* respondents had a sixth standard education or higher, while 75% of post-*Taru* respondents had completed at least that educational level.



Although the difference in religion between groups was statistically significant, $\chi^2(1, N = 1515) = 11.980$, $p = .001$, most respondents in both samples identified themselves as Hindu (pre-*Taru* = 96%, post-*Taru* = 98.8%), with more pre-*Taru* respondents (4%) than post-*Taru* respondents identifying themselves as Islamic. While the two samples differed on caste representation, $\chi^2(23, N = 1476) = 160.431$, $p = .001$, the caste most represented by respondents in both groups was Bhumiyar (pre-*Taru* = 51.6%, post-*Taru* = 36.2%), followed by Brahmin (pre-*Taru* = 7.8%, post-*Taru* = 12.2%).

The influence of religion also varied by sample, $\chi^2(4, N = 1515) = 27.234$, $p = .001$. Pre-*Taru* respondents were almost evenly split between saying that religion had little or no influence on their lives (45.2%) and that religion had a great influence or guided everything they did (45.8%). More post-*Taru* respondents reported that religion had at least a great influence on their lives (54.5) than did those who reported little or no influence (39.3%).

While most respondents in both samples were married (pre-*Taru* = 78.3%, post-*Taru* = 71.9%), more post-*Taru* respondents (26.4%) were single than were pre-*Taru* respondents (20.5%), $\chi^2(2, N = 1515) = 8.409$, $p = .015$. Pre-*Taru* respondents ($M = 2.05$) had significantly more living children than did post-*Taru* respondents ($M = 1.86$), *t*

(1513) = 2.053, p = .04. However, post-*Taru* respondents (M = 7.61) reported significantly larger households than did pre-*Taru* respondents (M = 6.94), t (1513) = -3.678, p = .001. In addition, the majority of both samples reported that the head of household was male (pre-*Taru* = 95.5 %, post-*Taru* = 97.5%); however, even the relatively small difference in these statistics was significant, χ^2 (1, N = 1515) = 4.67, p = .031.

Finally, significant differences between groups were evident for respondent occupation χ^2(10, N = 1515) = 38.699, p = .001, income t(1513) = -2.071, p = .039, and financial state χ^2(5, N = 1514) = 42.003, p = .001. For both groups more than three in ten respondents were housewives (pre-*Taru* = 37.5%, post-*Taru* = 30.9%). Other frequently mentioned occupations for the pre-*Taru* sample included cultivator (16.2%), "other" (10.5%), and self-employed (9.6%). For the post-*Taru* sample, other frequently mentioned occupations included "other" (14.8%), self-employed (10.9%), and cultivator (10.7%). Fewer than one in ten respondents in both groups reported being unemployed (pre-*Taru* = 8.5%, post-*Taru* = 7.2%).

The average monthly household income of pre-*Taru* respondents (3,588 rupees) was significantly lower than the average monthly household income of post-*Taru* respondents (3,997 rupees). However, the median income of both samples was 2500 rupees, (i.e., 50% of households fell below 2500 rupees for average income). More than seven out of ten pre-*Taru* respondents (73.6%) and more than eight out of ten post-*Taru* respondents (82.1%) reported a good financial state, reporting that they either had enough food to eat or ate very well, χ^2(5, N = 1514) = 42.003, p = .001. Although they were a small percentage of the overall sample, more individuals in the pre-*Taru* sample (7.6%) reported that their financial state was poor—that they never or often did not have enough food to eat—than did individuals in the post-*Taru* sample (2.7%).

Significant differences between groups were observed regarding radio listening habits, χ^2(4, N = 1515) = 12.218, p = .016. Approximately eight in ten respondents in both groups reported that they listened to the radio daily (pre-*Taru* = 83.2%, post-*Taru* = 78%), slightly more than one in ten reported that they listened several times a week (pre-*Taru* = 12.3%, post-*Taru* = 13.4%) and one in ten indicated that listened at least once a week or less (pre-*Taru* = 4.6%, post-*Taru* = 8.6%). While respondents in both samples reported that they viewed television less frequently than they listened to the radio, the two groups differed significantly in their habits, χ^2(5, N = 1515) =2.536 , p = .001. More than one-third of respondents from both samples stated that they watched television on a daily basis (pre-*Taru* = 35.2%, post-*Taru* = 36.6%), about one-fifth of the pre-*Taru* sample (20.7%) and more than one-fourth of the post-*Taru* sample (27%) watched television less regularly, and more than one-third of both samples reported that they didn't watch television (pre-*Taru* = 41.4%, post-*Taru* = 34.8%).

When asked if they had heard of the radio program *Ka Karoo Janani*, seven out of 10 pre-*Taru* respondents (70.3) said that they had heard of the program while almost nine out of 10 of the post-broadcast sample (89.4) said that they had heard of it, $\chi^2(1, N = 1515) = 86.063$, $p = .001$. And, as would be expected, when pre-*Taru* respondents were asked if they had heard about the radio serial, *Taru* only about one in twenty (5.9%) indicated that they had heard of it, in contrast to ten in twenty post-*Taru* respondents (50.3%) who indicated that they had heard of the program, $\chi^2(1, N = 1515) = 368.380$, $p = .001$.

Though significant differences existed between the screened pre and post *Taru* samples, the large sample size makes even slight differences statistically significant. However, knowing which variables the pre and post-*Taru* screened samples differ on allows researchers to statistically control for the effects of these variables before conducting more advanced statistical analysis to ensure an accurate assessment of relationships between variables.

Characteristics of the Screened Post-Taru Sample

Following is a description of the sample of respondents by which all change is measured. After the characteristics of this sample are described along with their degree of exposure and perceptions of *Taru*, then the outcomes of *Taru* will be assessed by way of a comparison of pre-*Taru* and post-*Taru* screened samples.

Health Care Practices.

Almost six in ten individuals (57.7%) had been to a health provider three times a year or less, while just over four in ten visited a health provider at least every two to three months. When asked to identify the two most frequently visited health care providers, more than eight in ten post-*Taru* respondents (83.2%) said that they visited a private doctor, just over one in ten (13.2%) said that they visited a government hospital, and another one in ten (10.6%) said that they visited a private hospital or nursing home. Visits to Titly Centre (6.8%) and Surya Clinic (0.2%) were mentioned less frequently. Respondents who indicated that they went to a Titly Centre for health care ($N = 48$) were asked to list the reasons for going to the Centre. Half of the respondents (50%) said that they went to the Centre because it was close their house. Four in ten (39.5%) said that they went because it was inexpensive. Fewer than two in ten (16.7) said they went because the Centre had good quality care, and just over one in ten (12.5%) said they went to the Center because it used good products.

In addition to the media-related questions discussed previously, post-*Taru* respondents were asked to list the types of radio programs to which they listened. Among those who identified specific genres of programs ($N = 730$), the most frequently

mentioned genre was drama/soap opera (79.9%), followed by music/songs (49.6%), news (18.2%), sports (16.7%), and health programs (12.6%). Respondents who indicated that they viewed television were asked to list the types of programs that they watched. Among those who specified types of programs they viewed (*N* = 498), the most frequently mentioned genre was drama/soap opera (74.1%), followed by health programs (55.4%), news (48.2%), music/songs (32.7%), and sports (25.1%).

As mentioned above, respondents were asked about the program, *Ka Karoo Janani*. Of those who had heard of *Ka Karoo Janani* (*N* = 683), one in ten (10.5%) had never listened to an episode. Four in ten respondents (38.4%) said that they had listened to between one and five episodes, two in ten (19.3%) had listened to between six and ten episodes, two in ten (19.2%) had listened to between 11 and 25 episodes, and more than one in ten (12.4%) had heard 26 or more episodes. When asked if they had heard of the fictitious program, *Mere Humsafar*, only one in ten individuals said that either they had heard of it but had not listened to it (2.7%) or that they not had heard of it but had listened to it (7.6%).

Exposure to *Taru*

Half of all post-show respondents (*N* = 384) indicated that they had heard of the radio serial *Taru.* When asked to mention all ways in which they had heard of *Taru*, the majority of individuals (96.6%) mentioned that they had heard of it on the radio, followed by 17.2% who mentioned that they had heard *Taru* through a friend or family member. Of those who indicated that they had heard of *Taru*, over three in ten respondents (36.5%) had never listened to an episode. Another three in ten (29.7%) respondents had heard between one and eight episodes, two in ten (19.5%) had listened to between 10 and 25 episodes, and one in ten (9.1%) had listened to between 26 and all 52 episodes. In all, then, about three in ten of all respondents in the screened post-*Taru* sample had listened to at least one episode of *Taru*. Unless otherwise noted, the answers of these *Taru* listeners (*N* = 244) are reflected in the following *Taru*-related frequencies.

Most respondents (96.7%) indicated that they listened to *Taru* at home. Only 2.5% said they listened to it at a friend's house and less than one percent of individuals said that they listened at a relative's house or at a listener's club. More than two-thirds of the listeners said that they listened to *Tar*" alone (65.2%), while almost one-fourth said that they listened with their spouse (24.6%). Fewer than two in ten respondents said that they listened with their brother (17.2%), their female in-laws (17.2%), their parents (14.8%), or a male child (11.9%). Fewer than one in ten said that they listened with their sister (9.4%), male in-laws (7.4%), or female child (7%).

Attitudes Toward *Taru*

Post-*Taru* respondents who had listened to at least one episode of "*Taru*" (*N* = 244) were asked about their attitudes on a number of social issues. Their average responses are reported as means on a one to five scale on which one equals "strongly disagree," two equals "disagree," three equals "neutral," four equals "agree," and five equals "strongly agree" (this scale is used on all attitudinal statements throughout the survey). Based on this scale, the respondents tended to agree that the practice of dowry is a social curse (*M* = 4.25), that girls should be educated as much as boys (*M* = 4.68), and that daughters should have an important say in marrying a person of their choice (*M* = 4.02). They also agreed that daughters should inherit their rightful share of paternal property (*M* = 4.11) and that women should have an equal say in family decisions (*M* = 4.29). Respondents also thought that child marriage was a social evil (*M* = 4.07). They agreed, but less strongly so, that widows should be free to remarry (*M* = 3.82). Respondents were evenly divided in their opinions about whether inter caste marriages were a good practice (*M* = 3.02), but did agree that one should not judge a person's worth by their caste (*M* = 4.08). Finally, most respondents (58.6%) either disagreed or strongly disagreed with the statement "those who have HIV/AIDS are social pariahs" (*M* = 2.57).

Taru listeners were also asked about the degree to which they agreed or disagreed with a number of statements about *Taru* itself. Their responses indicate that they had positive attitudes towards the program. Most listeners agreed that *Taru* made them feel very emotional (*M* = 4.34), and that the serial was very entertaining (*M* = 4.42) (on scales of 1-5). They disagreed with the statement that *Taru* was boring (*M* = 1.63). Respondents seemed to enjoy various aspects of the program, indicating that they thought the theme song was very catchy (*M* = 4.35), that the prologue before each episode represented a useful summary of the previous episode (*M* = 4.23), and—to a lesser degree—that the epilogue made them think about key educational messages in the episode (*M* = 3.89). Listeners believed that the quality of *Taru*'s story (*M* = 4.47) and *Taru*'s production (*M* = 4.33) was very good. They thought that the characters on *Taru* were realistic (*M* = 4.12). In addition, they indicated that they looked forward to listening to *Taru* (*M* = 4.45) and that they wished that the serial had lasted longer (*M* = 4.51).

Overall, respondents moderately agreed with statements about whether they had talked about *Taru* with others. They mildly agreed that they had talked with their friends (*M* = 3.52), family (*M* = 3.60), and spouse (*M* = 3.21) about *Taru*.

In addition, *Taru* listeners thought the program was educational (*M* = 4.57). They believed that they learned a lot about gender equality (*M* = 4.09) and family planning (*M* = 4.10). They also agreed that *Taru* provided a lot of good information about HIV/AIDS. Respondents indicated that, after listening to *Taru*, that they wanted to change their lives for the better (*M* = 4.17). They also said that they wanted to change their community's lives for the better (*M* = 4.33).

Listeners were asked about *Taru*'s cast of characters. More than half of respondents (55.8%) identified Taru as their favorite character on the program, with more than one in ten indicating that Neha (15.8%) or Shashikant (10.4%) was their favorite character. Of those who identified a least favorite character (N = 127), one-third of the respondents (33.9%) identified Fhirki Chachi and another one-third identified Mangla.

Listeners also were asked about their responses to characters. They were asked whether or not they felt sorry or cried when something bad happened to a character; the majority of respondents (92.9%) indicated that they had. Just over half of the listeners (51.7%) reported that they felt like they knew some of the characters as their friends. Six in ten respondents (60.5%) felt like giving advice to certain characters on *Taru*. Seven in ten listeners (70.8%) tended to talk back to at least one of the characters.

Respondents were asked about their agreement with four statements regarding characters on *Taru*. When asked about the character, Shashikant, listeners agreed that they liked the character (M = 4.26), but were more divided about whether Shashikant was similar to themselves (M = 3.29), and whether they identified with the character (M = 3.11). They tended to agree that they wanted to be like Shashikant.

Attitudes towards the character Taru were more favorable. Respondents reported that they liked Taru (M = 4.74) and wanted to be like the character (M = 4.42). They were favorable, though to a lesser degree, with statements about their similarity to Taru (M = 3.69) and their identification with the character (M = 3.56).

Finally, listeners were a bit more divided in their opinions about Neha, though their responses remained somewhat positive. They indicated that they liked Neha (M = 4.12), but were more divided over the degree to which they felt that Neha was like them (M = 3.45), the degree to which they identified with the character (M = 3.04) and the degree to which they wanted to be like Neha (M = 3.77).

Only two percent of listeners said that they wrote letters to AIR about "*Taru*." Fewer than one percent indicated that they had written to a specific character.

A number of survey questions asked listeners whether or not they did anything as a result of listening to *Taru*. Half of the listeners (50.4%) indicated that they had talked to someone about gender equality as a result of listening to *Taru*. Nine out of twenty (45.3%) said that they did something to spread the idea of equal treatment of males and females. Almost six out of ten listeners (59.3%) said that they talked to someone on caste discrimination. Just over four out of ten (43.8%) said that they did something to eradicate caste discrimination.

As a result of listening to *Taru*, more than half of respondents reported that they talked to their spouse about family planning. Approximately one-third (32.7%) said that they talked to a health worker about family planning. Just under five in ten (48.7%) had spoken to same gender friends about family planning, and four in ten (41.2%) reported speaking to their in-laws on the subject.

Some respondents took other specific actions as a result of listening to the serial. One-fourth of listeners said that they visited a family planning center as a result of the program. Nearly one in ten (9.8%) said that they had used dipsticks to check pregnancy. Almost one-fourth (23.6%) said that they started using family planning methods, and another one-fourth of the sample (27.6%) said that they continued using family planning methods. More than four out of ten (42.1%) said that they adopted a method of preventing HIV/AIDS as a result of listening to *Taru*. Half of the listeners (50%) said that they participated in the activities of community development.

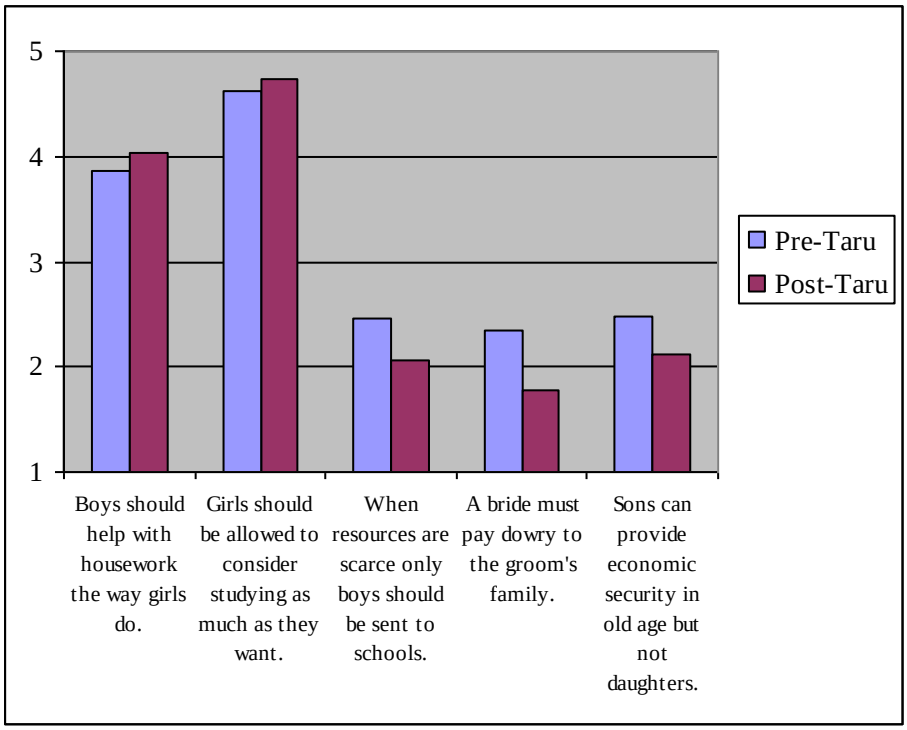
Comparison of Pre-Taru Sample and Post-Taru Sample on Outcome Variables

Pre-broadcast (baseline) and post-broadcast screened samples were compared on a number of outcomes including items concerning gender equality, family planning, social norms, individual and community empowerment, and Janani's service delivery apparatus.

Gender Equality Outcomes

Three types of gender equality questions were asked. The first set of questions assessed gender equality in terms of perceptions as to whether or not girls could do what boys could do. *Taru* appeared to have a consistently positive effect on gender equality perceptions given the mean scores shown below. Post-*Taru* respondents (M = 4.04) were more likely than pre-*Taru* respondents (M = 3.87) to agree that boys should help with housework the way girls do, $t(1513) = -2.740$, $p = .006$. As seen in the chart below, the post-*Taru* group (M = 4.74) was significantly more favorable than the pre-*Taru* group (M = 4.62) towards the attitude that girls should be allowed to continue studying as much as they want, $t(1513) = -3.221$, $p = .001$. The post-*Taru* sample (M = 2.07) was more likely than the pre-*Taru* sample (M = 2.46) to disagree with the statement, "When resources are scarce only boys should be sent to school," $t(1512) = 5.822$, = .001. The post-*Taru* group (M = 1.78) also disagreed more strongly than the pre-*Taru* group (M = 2.34) with the statement, "A bride's family must pay dowry to the groom's family," $t(1513) = 8.832$, $p = .001$. Finally, post-*Taru* respondents were less likely than the pre-*Taru* respondents to disagree with the statement, "Sons can provide economic security in old age but not daughters," t (1512) = 5.469, $p = .001$.

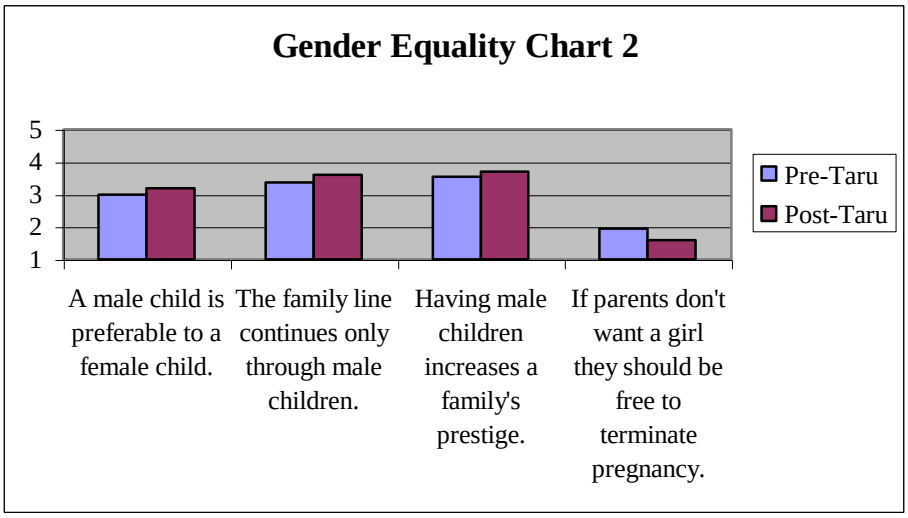
Key Finding: *Taru* appeared to have a significant and consistent effect on gender equality perceptions, such that after the broadcast of *Taru*, respondents held significantly stronger gender equality beliefs.



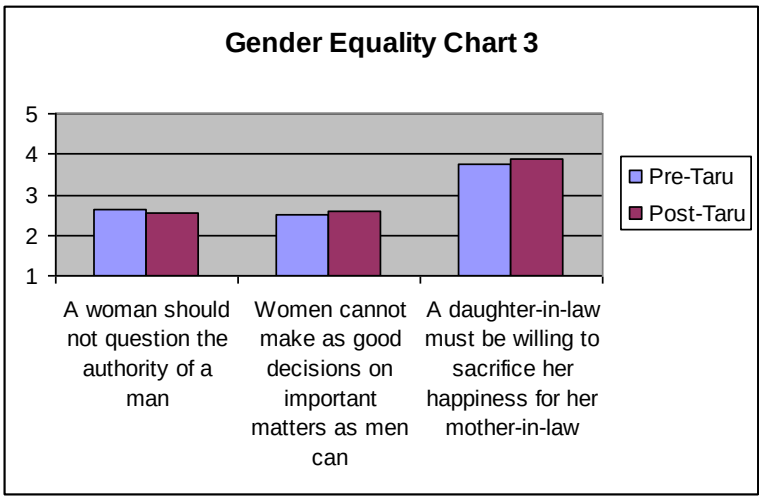
The second set of gender equality perceptions assessed preferences for a male child. Overall, *Taru* did not seem to impact preferences for a male child and/or even increased the preferences and prestige associated with having male children, as shown in the chart below. Specifically, a male child was preferable to a female child for the post-*Taru* group (M = 3.18) as compared to the pre-*Taru* group (M = 3.00), $t(1510) = -2.480$, p = .013. Although opinions were more divided regarding the attitude that the family line continues only through male children, the post-*Taru* sample (M = 3.60) was more positive (though only mildly so) than was the pre-*Taru* sample (M = 3.36), t (1513) = -3.441, p = .001. Post-*Taru* respondents (M = 3.70) also were more likely than pre-*Taru*

respondents (*M* = 3.55) to be in mild agreement with the attitude that having male children increases a family's prestige, *t* (1511) = -2.234, *p* = .026. On the positive side, however, when asked about their agreement with the statement, "If parents don't want a girl child, they should be free to terminate pregnancy," post-*Taru* respondents (*M* = 1.70) were more likely to disagree than were pre-*Taru* respondents (*M* = 1.94), *t* (1509) = 3.938, *p* = .001.

The third set of gender equality questions assessed appropriate roles for women. For these items, there was no significant impact due to the airing of *Taru* across all three questions (see chart below). Specifically, both pre-*Taru* (*M* = 2.63) and post-*Taru* (*M* = 2.54) respondents tended to disagree with the attitude that women should not question the



authority of a man. Both groups (pre-*Taru*, *M* = 2.49; post-*Taru*, *M* = 2.59) tended to disagree with the statement, "Women cannot make as good decisions on important matters as men can." Finally, both pre-*Taru* (*M* = 3.77) and post-*Taru* (*M* = 3.86) respondents were more likely to agree that a daughter-in-law must be willing to sacrifice her happiness for her mother-in-law.



Summary of Key Findings for Gender Equality Outcomes: In summary, it appears that respondents held significantly and consistently more positive gender equality perceptions after the broadcast of *Taru* when compared to before exposure to *Taru*. However, the airing of *Taru* did not have any effect and sometimes had negative effects on preferences for a male child, such that male children were preferred and appeared to hold greater prestige than female children. Finally, no significant differences appeared pre-*Taru* as compared to post-*Taru* on perceptions about the roles of women as compared to men.

Family Planning Outcomes

Pre-*Taru* and post-*Taru* groups were compared on their levels of awareness and knowledge of various contraceptive methods, as well as their use of and their intentions to use these methods. Following is the discussion of results as they relate to each type of specific family planning method. The specific results are followed by charts which compare pre-*Taru* and post-*Taru* respondents across all family planning methods by outcome type (e.g., awareness, knowledge, intention, etc.).

Pregnancy Dipsticks. Post-*Taru* respondents (58.4%) were more likely to be aware of pregnancy test dipsticks than were pre-*Taru* respondents (41.8%), χ^2 (1, N =1515) =41.574, p = .001. However, post-*Taru* respondents (50.4%) were less likely to have proper (complete or incomplete) knowledge of the dipsticks than were pre-*Taru* respondents (73.5%), χ^2 (3, N = 774) = 68.622, p = .001. While there was no difference between groups in current adoption of dipsticks (pre-*Taru* "yes" response = 37.2%, post-*Taru* "yes" response = 33.9%), post-*Taru* respondents (59.2%) were more likely than pre-*Taru* respondents (51%) to indicate that they either probably or definitely planned to use them, χ^2 (3, N = 508) = 17.099, p = .001.

Tubectomy. Similar patterns occur in the questions regarding tubectomy. Almost all members of both the post-*Taru* group (99.9%) and the pre-*Taru* group (97.9%), were aware of tubectomy, though the awareness in the post-*Taru* group was still significantly higher, $\chi^2(1, N = 1515) = 13.648$, $p = .001$. Once again, however, the post-*Taru* group (60%) had significantly less knowledge (either complete or incomplete) about tubectomy than the pre-*Taru* group (74.5%), $\chi^2(3, N = 1497) = 93.663$, $p = .001$. No significant difference was obtained between the groups (pre-*Taru* "yes" response = 30.9%, post-*Taru* "yes" response = 26.3%) regarding the current adoption of tubectomy. However, significantly more post-*Taru* respondents (90.1%) than pre-*Taru* respondents (74.2%) indicated that they probably or definitely would use tubectomy in the future, $\chi^2(3, N = 1047) = 55.258$, $p = .001$.

Vasectomy. The post-*Taru* group (97.8%) was more likely to be aware of vasectomy than was the pre-*Taru* group (94.7%), $\chi^2(1, N = 1515) = 10.059$, $p = .002$, while the post-*Taru* group (45.5%) was less likely than the pre-*Taru* group (69.8%) to have knowledge (complete or incomplete) about this planning method, $\chi^2(3, N = 1460) = 120135$, $p = .001$. There was no significant difference between the groups regarding adoption (pre-*Taru* "yes" response = 1.5%, post-*Taru* "yes" response = 2.7%). However, with regard to vasectomy, the post-*Taru* group (20.3%) was less likely than the pre-*Taru* group (49.8%) to indicate that they planned to use this method, $\chi^2(3, N = 1014) = 103.656$, $p = 001$.

Female Oral Contraceptive Pills. Awareness of female pills was also high among both groups (pre-*Taru* "yes" response = 96%, post-*Taru* "yes" response = 98.6%), though the post-*Taru* group was significantly more aware of the method, $\chi^2(1, N = 1515) = 9.389$, $p = .002$. The post-*Taru* group (57.4%) was less likely to have partial or complete knowledge of female pills than was the pre-*Taru* group (67.4%), $\chi^2(3, N = 1473) = 17.753$, $p = .001$. The post-*Taru* group (10%) was less likely to have reported that they had ever used female pills than was the pre-*Taru* group (13.4%), $\chi^2(1, N = 1471) = 4.161$, $p = .041$, though the groups did not differ regarding their current use of the method (pre-*Taru* "yes" response = 24.7%, post-*Taru* "yes" response = 26.1%). Individuals in the post-*Taru* group (61.1%) were more likely to indicate that they probably or definitely intended to use female pills in the future than were individuals in the pre-*Taru* group (48.3%), $\chi^2(3, N = 1026) = 67.992$, $p = .001$.

Apsara Oral Contraceptive Pills. When asked specifically about Apsara pills, the post-*Taru* group (91.4%) was more likely to be aware of them than was the pre-*Taru* group (83.1%), $\chi^2(1, N = 1515) = 23.312$, $p = .001$. But, once again, the post-*Taru* group (55.9%) had less knowledge (partial or complete) of the method than did the pre-*Taru* group (66%), $\chi^2(3, N = 1321) = 18.912$, $p = .001$. While there were no significant differences between the groups in whether respondents had ever used the particular brand of pills, (pre-*Taru* "yes" response = 8.2%, post-*Taru* "yes" response = 8.9%), it was more

likely that post-*Taru* respondents (32.7%), rather than pre-*Taru* respondents (1.0%), currently used the pills, χ^2 (1, N = 679) = 149.583, p = .001. It was also more likely that post-*Taru* respondents (59.4%), rather than pre-*Taru* respondents (46.4%), either probably or definitely intended to use Apsara pills in the future, χ^2 (3, N = 922) = 38.998, p = .001.

Male Contraceptive Pills. Post-*Taru* respondents (7.9%) were less likely to be aware of male pills than were pre-*Taru* respondents (11.1%), χ^2(1, N = 1515) = 4.533, p = .033. However, perhaps because of the small number of responses, the groups did not differ on their knowledge of the method, (pre-*Taru* proper complete/incomplete knowledge = 46.3%, post-*Taru* proper complete/incomplete knowledge = 30%). In addition, the groups did not differ on whether they ever used male pills (pre-*Taru* "yes" response = 1.2%, post-*Taru* "yes" response = 0%), currently used male pills (pre-*Taru* "yes" response = .1%, post-*Taru* "yes" response = 0%), or intended to use male pills (pre-*Taru* "yes" response = 27.5%, post-*Taru* "yes" response = 23.8%).

Condoms. Significantly more post-*Taru* respondents (93.3%) were aware of condoms than were pre-*Taru* respondents (89.1%), χ^2 (1, N = 1515) = 8.516, p = .004. However, significantly fewer post-*Taru* respondents (74.2%) than pre-*Taru* respondents (83.9%) were knowledgeable (partial or complete) about condoms, χ^2(3, N = 1382) = 34.432, p = .001. Post-*Taru* respondents (10.7%) were less likely than pre-*Taru* respondents (15.8%) to report that they had ever used condoms, χ^2(1, N = 1378) = 7.937, p = .005, there was no difference in current use in the two groups, (pre-*Taru* "yes" response = 28.1%, post-*Taru* "yes" response = 23.2%). Although about half of both groups (pre-*Taru* "yes" response = 49.2%, post-*Taru* "yes" response = 50.3%) indicated that it was probable or definite that they would use condoms in the future, the groups differed significantly in their overall responses to the question, χ^2 (3, N = 966) = 30.180, p = .001.

Mithun Condoms. The post-*Taru* group (83.9%) was more likely to be aware of Mithun condoms than was the pre-*Taru* group (73.4%), χ^2(3, N = 1515) = 26.209, p = .001. Again, however, the post-*Taru* group (73.5%) was less likely than the pre-*Taru* group (82.9%) to have either complete or partial knowledge of the particular brand of condoms, χ^2 (3, N = 1195) = 31.196, p = .001. Neither group was more likely to have ever used (pre-*Taru* "yes" response = 11.3%, post-*Taru* "yes" response = 10.1%) or to be currently using Mithun condoms (pre-*Taru* "yes" response = 25.5%, post-*Taru* "yes" response = 22%). The post-*Taru* group (54.1%) was more likely than the pre-*Taru* group (46.4%) to report probable or definite intentions to use Mithun condoms in the future, χ^2 (3, N = 837) = 30.461, p = .001.

Intra Uterine Loop/Copper T. The post-*Taru* group (81.4%) was more likely to be aware of the intra uterine loop/copper T than was the pre-*Taru* group (72.3%), χ^2(2, N

= 1515) = 18.353, p = .001. The post-*Taru* group (53.4%) was less likely than the pre-*Taru* group (66.6%) to have proper knowledge of family planning method, $\chi^2(3, N = 1164) = 42.594$, p = .001. The groups did not significantly differ regarding whether they have ever used (pre-*Taru* "yes" response = 4.3%; post-*Taru* "yes" response = 3.2%) or currently are using loop/copper T (pre-*Taru* "yes" response = 29.2%; post-*Taru* "yes" response = 20%). The groups did differ regarding their intention to use the method, with the post-*Taru* group (29.4%) being less likely than the pre-*Taru* group (32%) to indicate intention to use loop/copper T as a family planning method, $\chi^2(2, N = 756) = 11.930$, p = .008.

Contraceptive Injections. Post-*Taru* respondents (56.3%) were more likely to be aware of injections as a family planning method than were pre-*Taru* respondents (48.1%), $\chi^2(1, N = 1515) = 10.240$, p = .001. Post-*Taru* respondents (56%) were less likely to have any kind of proper knowledge about injections than were the pre-*Taru* respondents (58.2%), $\chi^2(3, N = 791) = 17.840$, p = .0.01 Neither group was more likely to have ever used (pre-*Taru* "yes" response = 1.4%, post-*Taru* "yes" response = 1.2%) or to be currently using injections (pre-*Taru* "yes" response = 0%, post-*Taru* "yes" response = 0%). The groups do differ on their responses to intention to use injections, with slightly more post-*Taru* respondents (35.3%) than pre-*Taru* respondents (34.1%) indicating that they probably or definitely will use injections in the future, $\chi^2(3, N = 509) = 8.190$, p = .042.

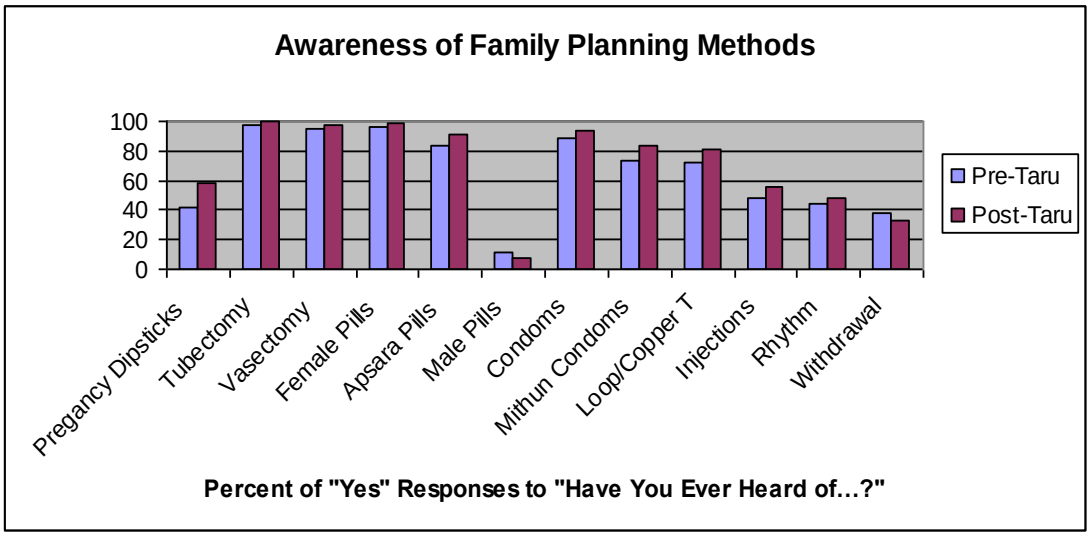
Rhythm Abstinence Method. Both groups were equally as likely to be aware of rhythm abstinence as a family planning method, (pre-*Taru* "yes" response = 43.7%, post-*Taru* "yes" response, 47.8%). The post-*Taru* group (85.5%) was less likely than the pre-*Taru* group (89.7%) to be knowledgeable (partial or complete) about the method, $\chi^2(3, N = 693) = 12.145$, p = .007. The post-*Taru* group (39.7%) was also less likely than the pre-*Taru* group (53.6%) to have ever used rhythm abstinence, $\chi^2(1, N = 688) = 13.194$, p = .001, though there was no significant difference between the groups regarding current use (pre-*Taru* "yes" response = 44%, post-*Taru* "yes" response = 50%). In addition, the post-*Taru* group (63.9%) was less likely than the pre-*Taru* group (71.2%) to indicate any intention to use rhythm abstinence in the future, $\chi^2(3, N = 435) = 16.751$, p = .001.

Withdrawal. Finally, post-*Taru* respondents (32.9%) and pre-*Taru* respondents (37.8%) were equally as likely to be aware of withdrawal as a family planning method. While overall responses regarding knowledge of withdrawal differed between groups, $\chi^2(3, N = 535) = 11.492$, p = .009, most post-*Taru* respondents (94.8%) and pre-*Taru* respondents (93%) had proper complete or partial knowledge of the method. The groups were equally as likely to report having ever used the method (pre-*Taru* "yes" response = 40.6%, post-*Taru* "yes" response = 48.2%), though post-*Taru* respondents (54.7%) were more likely than pre-*Taru* respondents (29.7%) to be currently using withdrawal as a family planning method, $\chi^2(2, N = 149) = 10.124$, p = .006. The groups were equally as

likely to report that they either probably or definitely planned to use the withdrawal in the future (pre-*Taru* "yes" response = 65.2%, post-*Taru* "yes" response = 68.1%).

Awareness of Family Planning

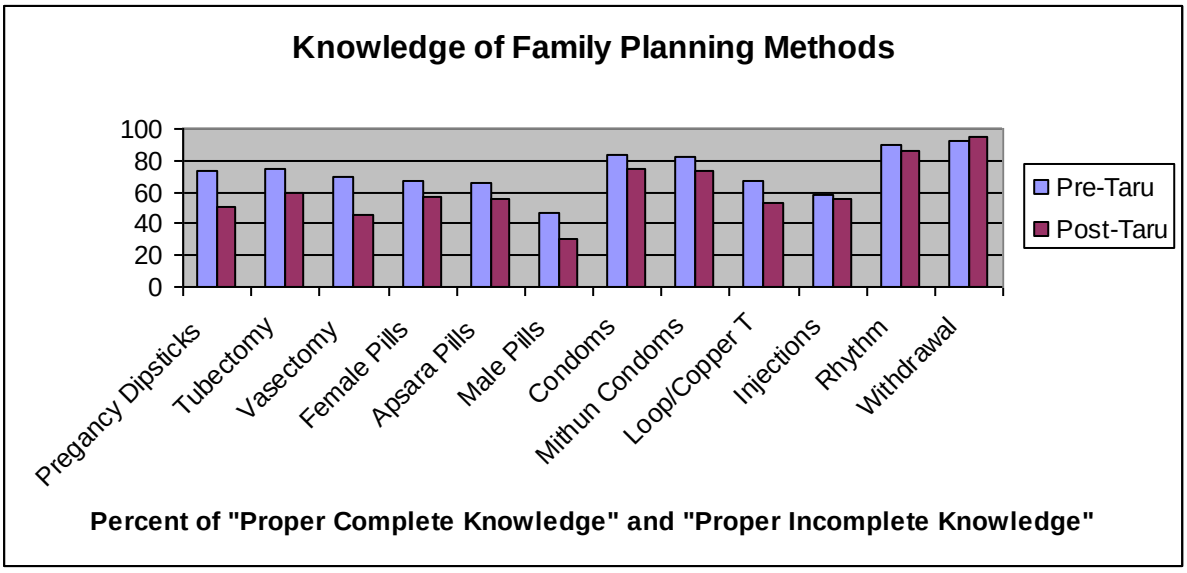
Awareness of permanent family planning methods, pills, and condoms was very high before *Taru* was broadcast. However, despite these already high levels of awareness, it appears that after the year-long broadcast of to *Taru*, most respondents had greater awareness of key family planning methods as compared to before the broadcast of *Taru* (please see chart below).



Key Finding: Awareness of various modern family planning methods increased significantly after the year-long broadcast of *Taru*.

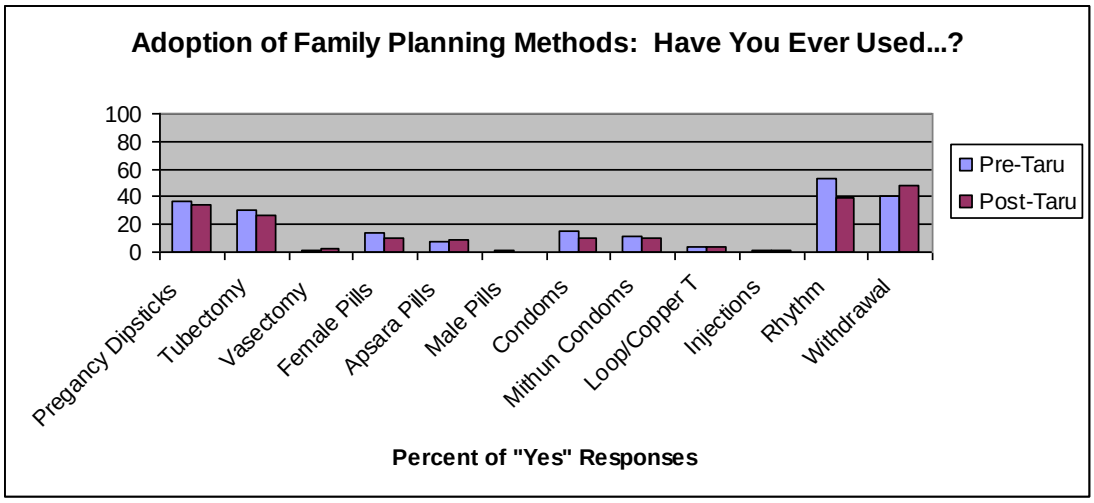
Knowledge of Family Planning Methods

Strangely enough, knowledge tended to be higher before the airing of *Taru* as compare to after the airing of *Taru*. However, this result should be analyzed more carefully according to different subgroups.



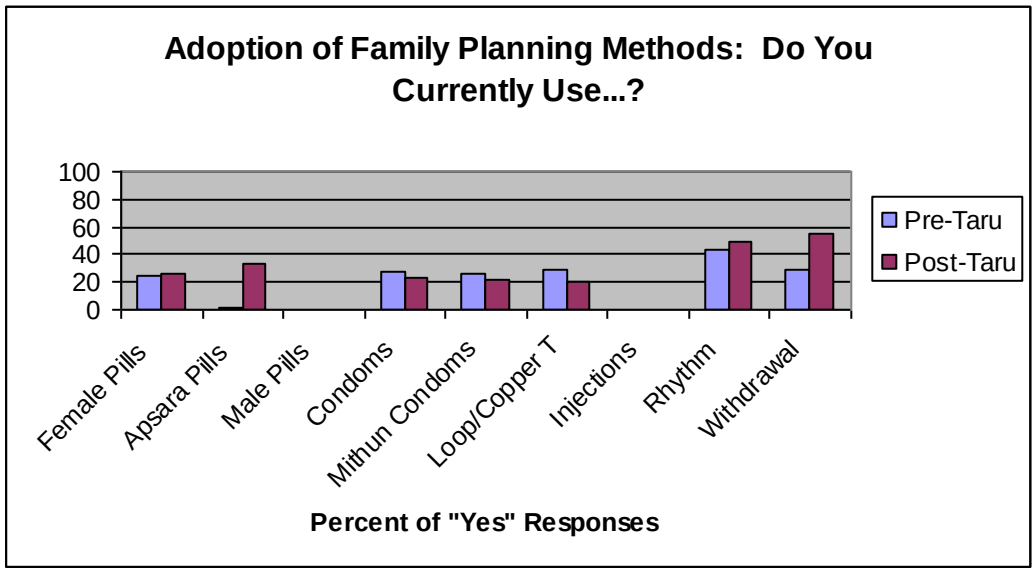
Ever Used a Method?

The use of various family planning methods, both pre-*Taru* and post-*Taru*, was relatively low across all methods except for the traditional (and more unreliable) methods of rhythm and withdrawal.



Currently Using What Method

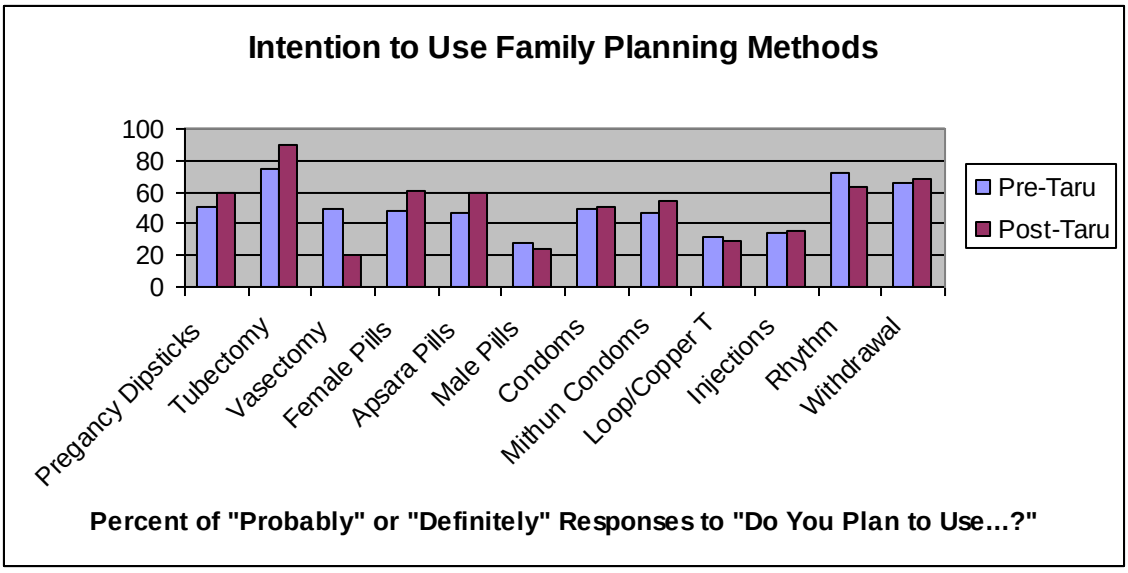
Of those who had "ever used" the methods described above, the chart below shows current users of specific methods. Of particular interest is the Apsara Pills findings – the broadcast of *Taru* appeared to have a very strong and significant effect on use of Apsara Pills when comparing pre-*Taru* to post-*Taru* respondents. Because this was a key purpose of the program, this finding suggests that *Taru* had the intended effects.



Key Finding: The broadcast of Taru appeared to significantly increase adoption of Apsara pills.

Intentions to Use a Family Planning Method

Intentions to use key *Taru*-related family planning methods was higher after *Taru* aired as compared to before *Taru* aired. A significant exception was vasectomy, so further campaigns are needed to promote this method (if it is a program goal). Also, please note that intentions to use the relatively unreliable rhythm method decreased after *Taru* aired.



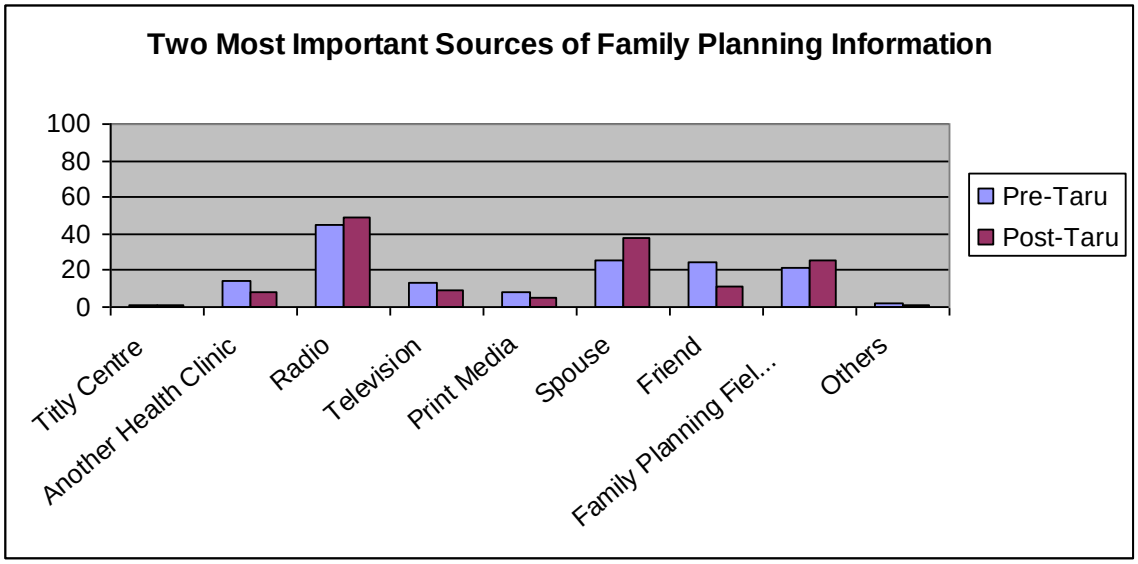
Key Finding: The use of modern family planning methods (with the exception of vasectomy) significantly and consistently increased after the *Taru* broadcast.

Contraceptive Use During Last Sexual Encounter

Respondents were asked whether they used a contraceptive during the last time that they had had sex. Post-*Taru* respondents (44.1%) were less likely than pre-*Taru* respondents (54.1%) to say that they had used a contraceptive, $\chi^2(1, N = 1373) = 13.513$, $p = .000$. The two groups of respondents also differed regarding the type of contraceptive used during the last time they had engaged in sex, $\chi^2(9, N = 668) = 18.183$, $p = .033$, though the most frequently used contraceptive reported by both groups was female sterilization (pre-*Taru* = 64%, post-*Taru* = 56.2%). The second most frequently reported method for the pre-*Taru* group was periodic abstinence (12.5%), followed by foam/jelly (7.1%), while the second most frequently reported method for the post-*Taru* group was the pill (10.6%) followed by periodic abstinence (9.7%).

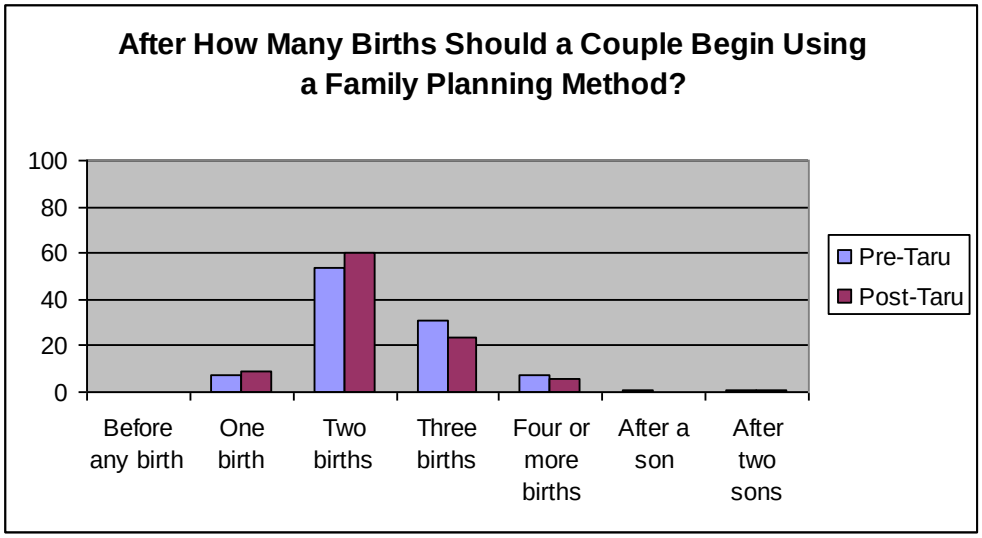
Sources of Information of Family Planning Methods

If respondents answered affirmatively to having adopted a family planning method, they were asked to name their two most important sources of information about the method (see chart below). Almost half of the respondents (48.5%) said that the radio was one of their most important source of information about family planning. Spouses were the next most frequently sited source of information (37.8%), followed by family planning field workers (25.3%). The chart below shows the most frequently cited sources of information about family planning.



Timing of Family Planning Use

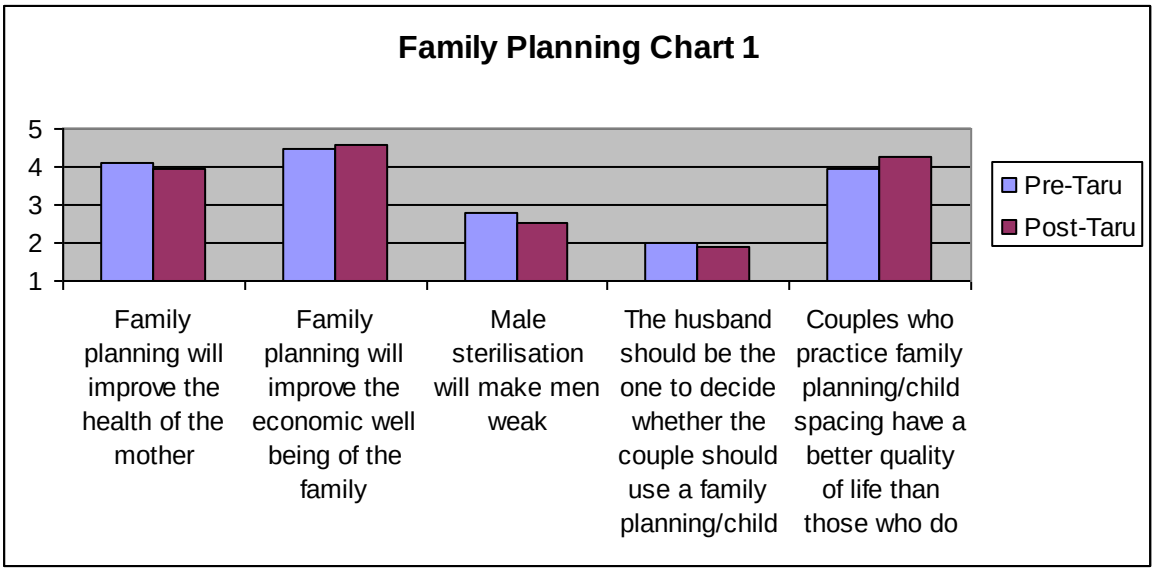
*R*espondents were asked after how many children should they begin using a family planning method. The chart below shows that after *Taru* aired, respondents thought they should use family planning after having fewer children (one or two) as compared to what they thought pre broadcast of *Taru*, where respondents thought they should have three or four births. There was a significant difference between pre-*Taru* (53.7%) and post-*Taru* (60.3%) respondents for respondents saying one should use family planning after two births, $\chi^2(9, N = 1515) = 13.513$, $p = .011$; and correspondingly, there was a significant difference between pre-*Taru* and post-*Taru* respondents saying family planning should begin after three births (pre-*Taru* = 30.5%, post-*Taru* = 23.6%).



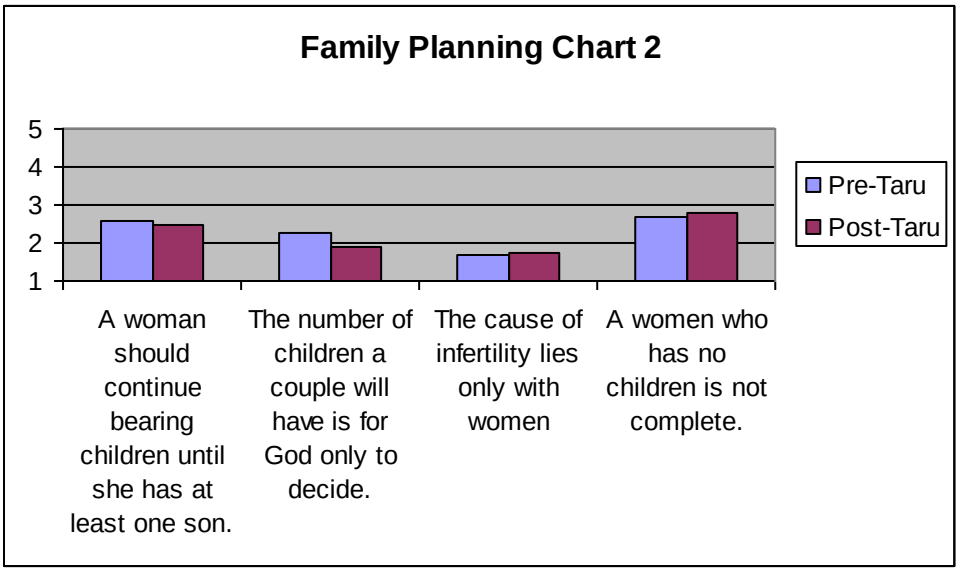
Key Finding: The airing of *Taru* influenced social norms in the desirable direction about when couples should begin using family planning methods. Specifically, after the airing of *Taru*, the onset of family planning use significantly decreased from after three births to after two births.

Perceptions of Family Planning

Respondents in both groups were asked the extent to which they agreed or disagreed with a number of statements concerning family planning. As the chart below indicates, post-*Taru* respondents (M = 3.96) were less likely than pre-*Taru* respondents (M = 4.10) to agree that family planning will improve the health of the mother, $t(1505) = 2.664$, $p = .008$. However, the post-*Taru* respondents (M = 4.58) were more likely than pre-*Taru* respondents (M = 4.48) to believe that family planning would improve the well being of the family, $t(1511) = -3.193$, $p = .001$. Post-*Taru* respondents (M = 2.53) were more likely than pre-*Taru* respondents (M = 2.78) to disagree with the statement, "male sterilization will make men weak," $t(1395) = 3.461$, $p = .001$. The post-*Taru* respondents (M = 1.89) also disagreed more strongly than did the pre-*Taru* respondents (M = 2.01) with the attitude that the husband should be the one to decide whether the couple should use a family planning/child spacing method, $t(1506) = 2.413$, $p = .016$. Post-*Taru* respondents (M = 4.25) were more likely than pre-*Taru* respondents (M = 3.94) to agree that couples who practice family planning/child spacing had a better quality of life than those who did not, $t(1506) = -5.717$, $p = .001$. Overall, perceptions were positively and significantly influenced in the desired direction in the post-*Taru* group as compared to the pre-*Taru* group (exception being "FP improves health of the mother").



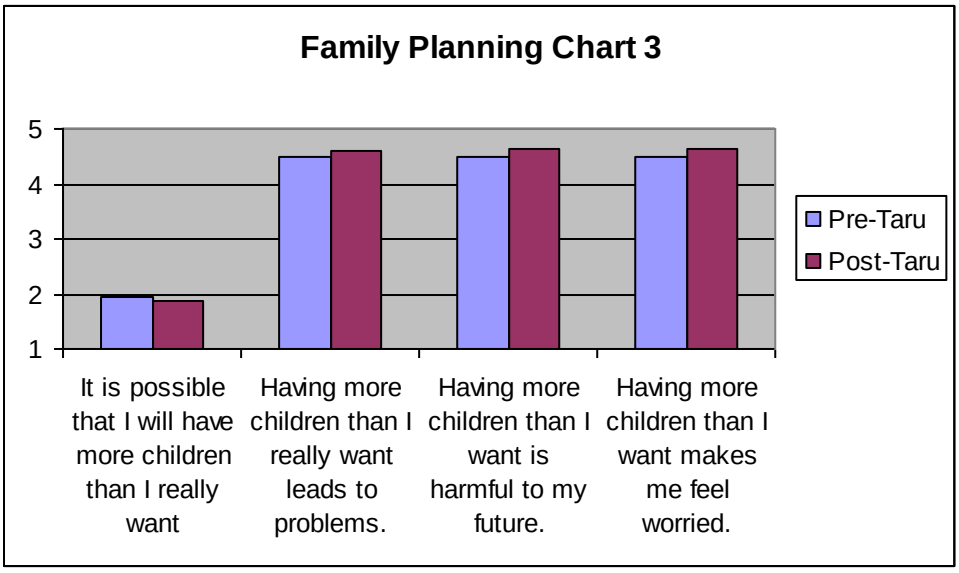
The second set of perceptions focuses on beliefs about children and women. As the chart below indicates, respondents from both groups were equally as likely to mildly disagree with the attitude that a woman should continue bearing children until she has had at least one son (pre-*Taru*, *M* = 2.57; post-*Taru*, *M = 2.46*). Post-*Taru* respondents (*M* = 1.91) were more likely than pre-*Taru* respondents (*M* = 2.26) to disagree that the number of children a couple will have was for God only to decide, $t(1507) = 5.583$, $p = .001$. Respondents from both groups were equally as likely to disagree with the belief that the cause of infertility lay only with women (pre-*Taru*, *M* = 1.67; post-*Taru*, *M* = 1.71). Finally, both groups were equally as likely to disagree with the belief that a woman who had no children was not complete (pre-*Taru*, *M* = 2.67; post-*Taru*, *M* = 2.78). Therefore, the only significant result in this set of perceptions was in the desired direction where those exposed to *Taru* expressed more control over the number of children they had (disagreeing that the number of children one has is up to God) as compared to before they listened to *Taru*.



EPPM (Extended Parallel Process Model) Variables

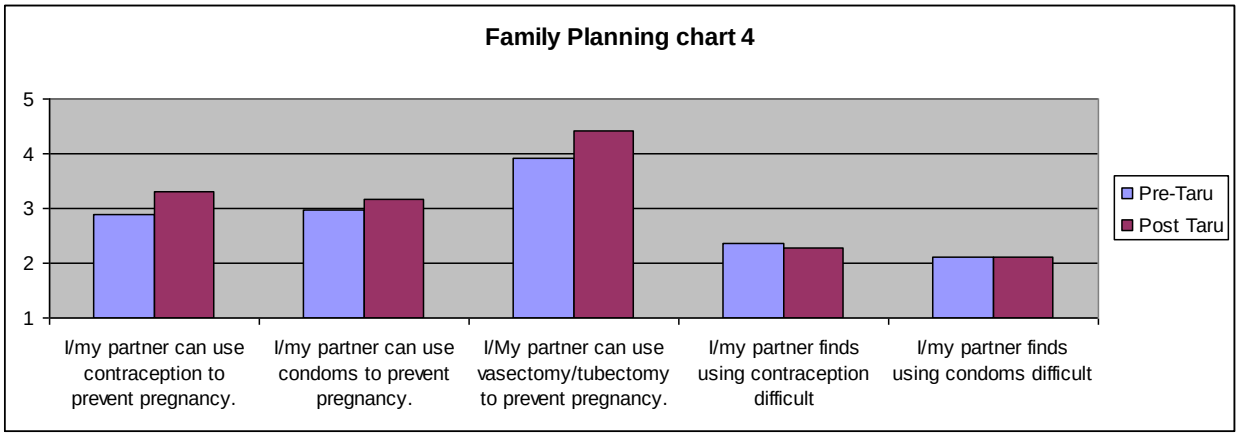
The Extended Parallel Process Model explains how to manage fear to produce desired campaign effects. Briefly, the theory suggests that perceptions of threat (composed of perceived susceptibility and severity) and perceptions of efficacy (composed of perceived self-efficacy and response efficacy) interact in predictable manners to produce either no response to a campaign, adaptive responses to a campaign (i.e., behavior change), or maladaptive responses to a campaign (e.g., fear control responses). The EPPM variables were assessed as follows.

Perceived threat was assessed by asking respondents about their feelings of susceptibility, severity, and fear concerning birthing more children than they really wanted. As the chart below indicates, perceived susceptibility to having more children than desired was very low, with no significant difference apparent after the *Taru* broadcast (pre-*Taru*, $M = 1.94$; post-*Taru*, $M = 1.86$). In contrast, the broadcast of *Taru* appeared to significantly increase perceived severity of having more children than desired. Post-*Taru* respondents ($M = 4.59$) were significantly more likely than pre-*Taru* respondents ($M = 4.50$) to agree that having more children than they really wanted led to problems, $t(1512) = -2.849$, $p = .004$. Likewise, post-*Taru* respondents ($M = 4.62$) were significantly more likely than pre-*Taru* respondents ($M = 4.50$) to agree that having more children than they wanted was harmful to their future, $t(1510) = -4.063$, $p = .001$. Finally, the post-*Taru* respondents ($M = 4.64$) were significantly more likely than pre-*Taru* respondents ($M = 4.51$) to agree that having more children than they wanted made them feel worried, $t(1506) = -4.253$, $p = .001$.



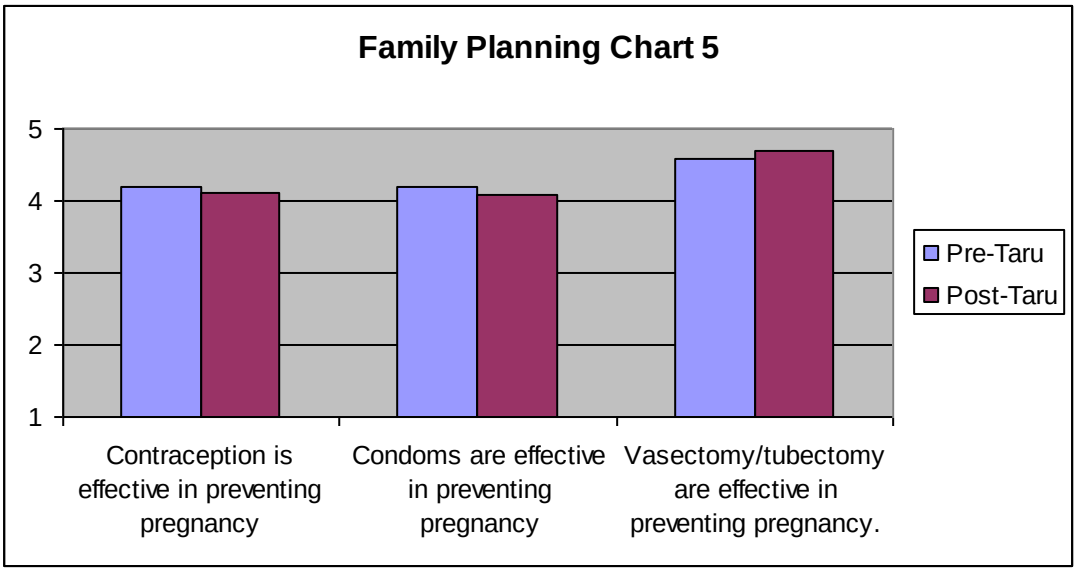
Key Finding: The perceived severity of having more children was significantly increased after the broadcast of *Taru*. Perceived susceptibility to having more children than desired was very low both pre and post-*Taru*.

Perceived efficacy was assessed by asking respondents about their perceived ability to use contraceptives (self-efficacy) and their perceptions about the effectiveness of various contraceptives (response efficacy). After the broadcast of *Taru*, perceived self-efficacy toward contraceptives and condoms was significantly higher than prior to the broadcast of *Taru*. Specifically, respondents (M = 3.31) were significantly more likely to believe they could use contraceptives than they could prior to the *Taru* broadcast (M = 2.89), $t(1130) = -4.930$, $p = .001$. Similarly, post-*Taru* respondents (M = 3.17) had significantly stronger beliefs that they could use condoms to prevent pregnancy than pre-*Taru* respondents (M = 2.97), $t(1070) = -2.281$, $p = .023$. Likewise, post-*Taru* respondents (M = 4.41) were more likely than pre-*Taru* respondents (M = 3.92) to believe that they or their partner could use vasectomy/tubectomy to prevent pregnancy, $t(1183) = -6.957$, $p = .001$. There was no significant difference between perceived difficulty of using contraception (pre-*Taru*, M = 2.36; post-*Taru*, M = 2.27) or perceived difficulty of using condoms (pre-*Taru*, M = 2.10; post-*Taru*, M = 2.11).

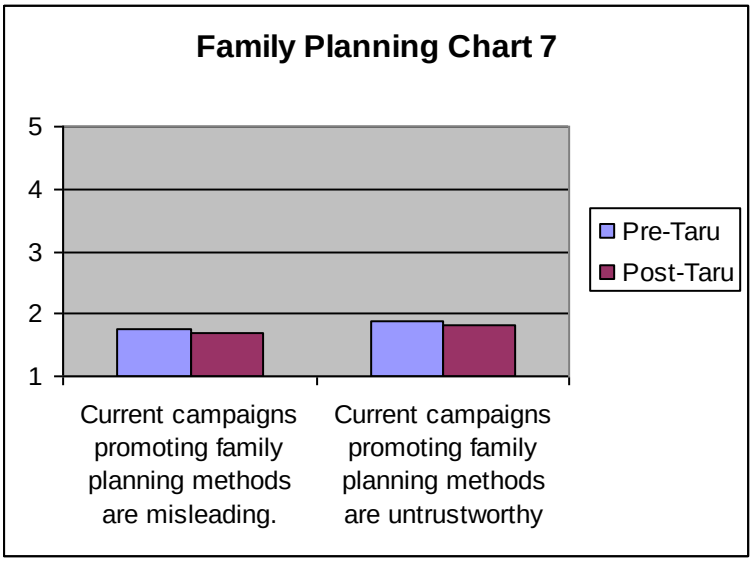


Key Finding: Perceived self-efficacy of respondents to use contraception to prevent unwanted births positively and significantly increased after the year-long broadcast of *Taru*.

Response efficacy overall was very high with scores above four in all cases on a five-point scale. However, contraception in general was not positively influenced by the *Taru* airing as post-*Taru* respondents (M = 4.11) were less likely than pre-*Taru* respondents (M = 4.20) to believe that contraception was effective in preventing pregnancy, $t(1387) = 2.34$, $p = .019$. Similarly, post-*Taru* respondents (M = 4.09) were less likely than pre-*Taru* respondents (M = 4.21) to agree than condoms were effective in preventing pregnancy, $t(1340) = 2.964$, $p = .003$. However, the post-*Taru* respondents (M = 4.70) were more likely than pre-*Taru* respondents (M =4.59) to agree that vasectomy and tubectomy are effective in preventing pregnancy, $t(1482) = -3.785$, $p = .001$.

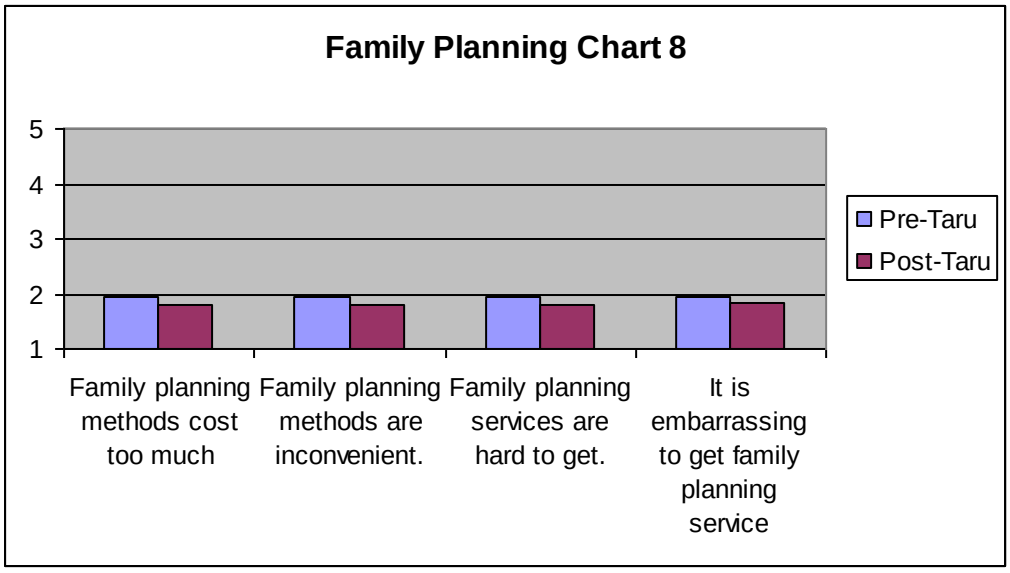


Fear control outcomes such as defensive avoidance or reactance were not significantly affected by the *Taru* broadcast. In terms of defensive avoidance, pre and post-*Taru* respondents were neutral with regard to their tendencies to avoid thinking about getting pregnant when having sex, (pre-*Taru*, $M = 2.99$; post-*Taru*, $M = 3.07$). Reactance overall was very low, with mean scores below 2 on a scale of 1 to 5 with 1 being the lowest score. Specifically, the chart below shows that pre and post-*Taru* respondents disagreed that current campaigns promoting family planning methods were misleading (pre-*Taru*, $M = 1.77$; post-*Taru*, $M = 1.69$). Likewise, pre and post-*Taru* respondents disagreed that current campaigns promoting family planning methods were untrustworthy (pre-*Taru*, $M = 1.89$; post-*Taru*, $M = 1.83$).



Key Finding: Fear control strategies were very low both pre and post-*Taru*, suggesting that respondents are actively dealing with threats in their lives related to family planning.

Barriers to Family Planning Use. The *Taru* broadcast appeared to reduce perceived barriers to family planning usage, as the post-*Taru* group perceived significantly weaker barriers than the pre-*Taru* group. As the chart below indicates, the post-*Taru* group (M = 1.79) was more likely than the pre-*Taru* group (M = 1.93) to disagree not only with the statement that family planning methods cost too much, $t(1491) = 2.671$, $p = .008$, but also with the statement that family planning methods were inconvenient (pre-*Taru*, M = 1.93; post-*Taru*, M = 1.82), $t(1486) = 2.445$, $p = .015$. In addition, the post-*Taru* group (M = 1.80) was more likely than the pre-*Taru* group (M = 1.94) to disagree with the opinion that family planning services were hard to get, $t(1498) = 2.924$, $p = .004$. The post-*Taru* group (M = 1.85) also tended to disagree more than the pre-*Taru* group (M = 1.94) with the feeling that it is embarrassing to get family planning service, $t(1497) = 2.080$, $p = .038$.



There were no significant differences between the pre-*Taru* and post-*Taru* groups on concern about side effects from family planning methods. Specifically, post-*Taru* respondents (M = 2.59) were less likely than pre-*Taru* respondents (M = 2.42) to slightly disagree with the statement that they or their partner were worried about the side effects from using contraception (pre-*Taru*, M = 2.59; post-*Taru*, M = 2.42).

Key Finding: Perceived barriers to family planning methods were significantly and consistently lower across several items after the airing of *Taru*.

Perceptions about Family Planning Services

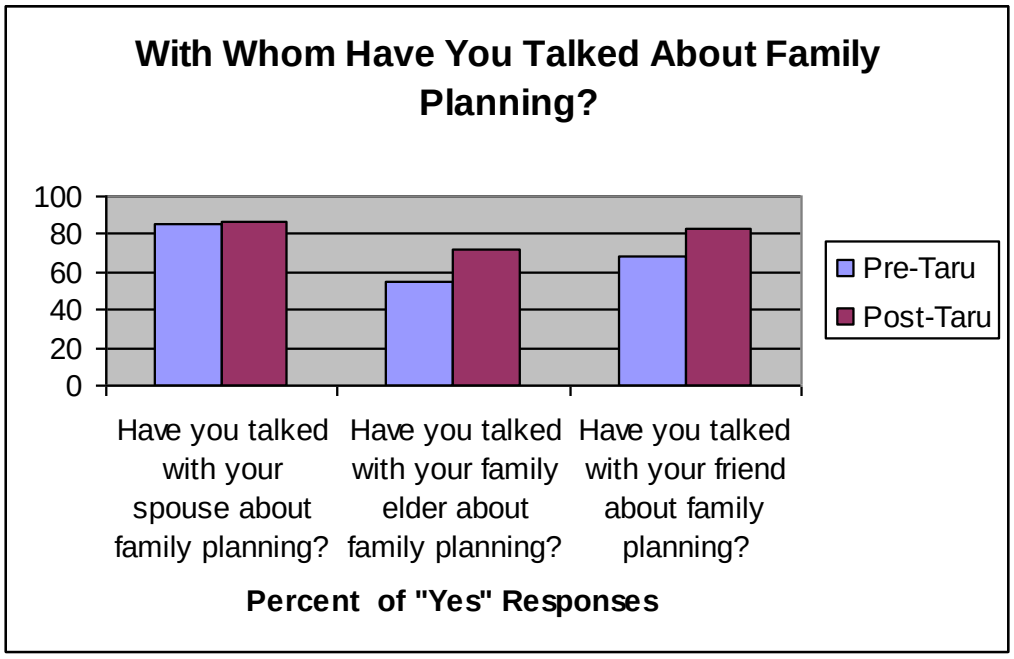
Post-*Taru* respondents (M = 4.16) were more likely than pre-*Taru* respondents (M = 3.89) to agree that the quality of family planning services in their area was good, $t(1434) = -5.423$, $p = .001$. Also, post-*Taru* respondents (M = 4.52) were more likely than pre-*Taru* respondents (M = 4.37) to say that they knew where to go to get family planning services, $t(1465) = -3.800$, $p = .001$. No significant difference emerged pre versus post *Taru* on perceptions about health care workers, in that respondents almost universally thought they were treated well by health workers when they sought family planning (pre-*Taru*, M = 4.08; post-*Taru*, M = 4.17).

Key Finding: Perceived quality of family planning services and knowledge about where to go to get family planning services increased significant from pre-*Taru* to post-*Taru*.

Talk About Family Planning

Talk with one's spouse about family planning issues was high both pre and post-*Taru* (pre-*Taru* = 85.6%, post-*Taru* = 86.3%), with no significant difference. However,

after the broadcast of *Taru* there were significantly greater reports of talk with a family elder as compared to before *Taru* (mother/father, mother-in-law/father-in-law) (pre-*Taru* = 55.4%; post-*Taru* = 72.3%), $\chi^2(1, N = 1512) = 46.685$, $p = .001$. In addition, after *Taru* aired there was greater talk about family planning issues with friends as compared to pre-*Taru* (pre-*Taru* = 68.2%; post-*Taru* = 83%), $\chi^2(1, N = 1514) = 45.776$, $p = .001$.



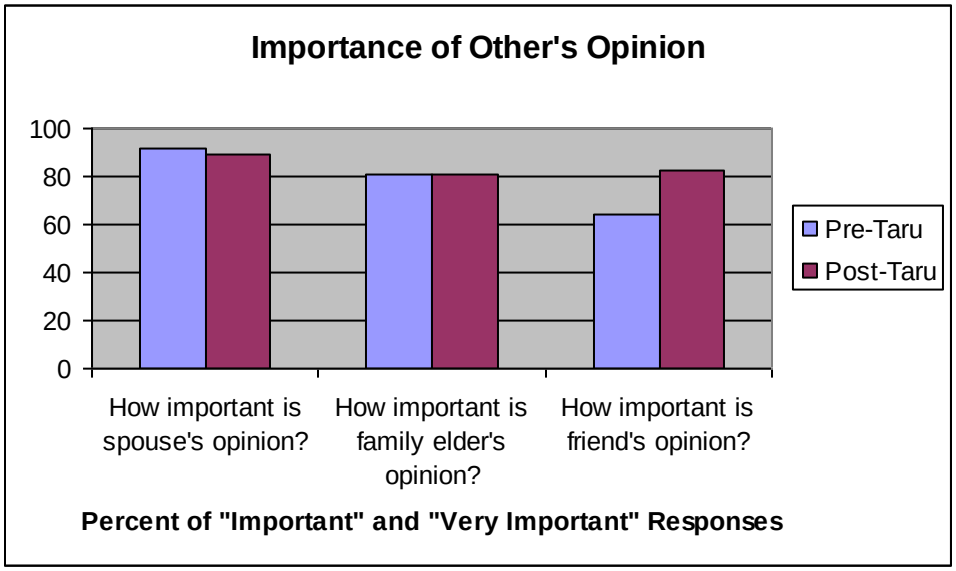
Key Finding: The *Taru* broadcast appeared to spur discussion about family planning with elders and friends.

Perceived Social Norms

Pre-*Taru* and post-*Taru* groups were compared on the basis of how they were influenced by social and familial norms.

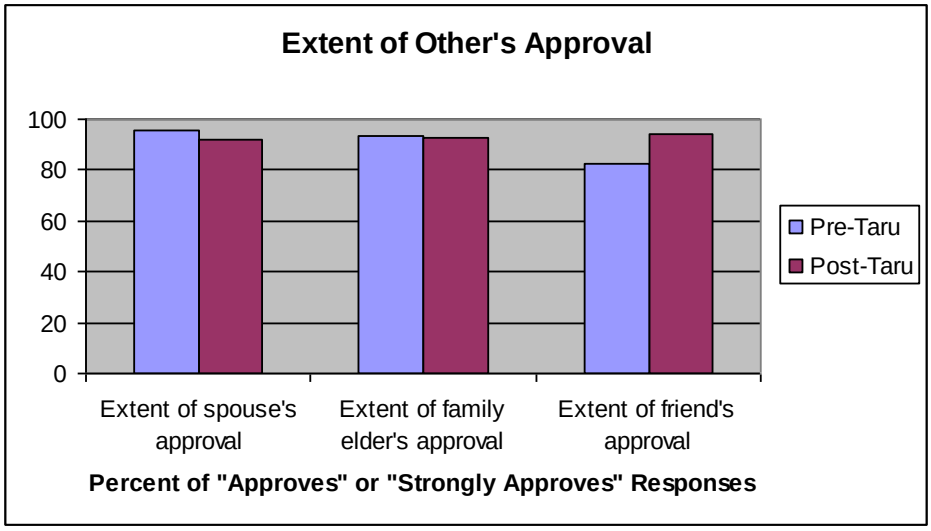
The importance of spouse opinions was high both before and after *Taru*, with no significant difference emerging (pre-*Taru* = 91.9%, post-*Taru* = 89.5 %). Similarly, the importance of the family elder's opinion was high both pre and post *Taru* (pre-*Taru* = 80.8%, post-*Taru* = 81.2%). However, the importance of friends' opinions on family planning issues significantly increased from pre-*Taru* (64%) to post-*Taru* (82.4%), $\chi 2(4, N = 1514) = 84.173$, $p = .001$. Post-*Taru* respondents ($M = 1.30$) were more likely than

pre-*Taru* respondents (*M* = 1.66) to disagree with the statement that their religion was opposed to family planning, *t*(1506) = 7.896, *p* = .001.



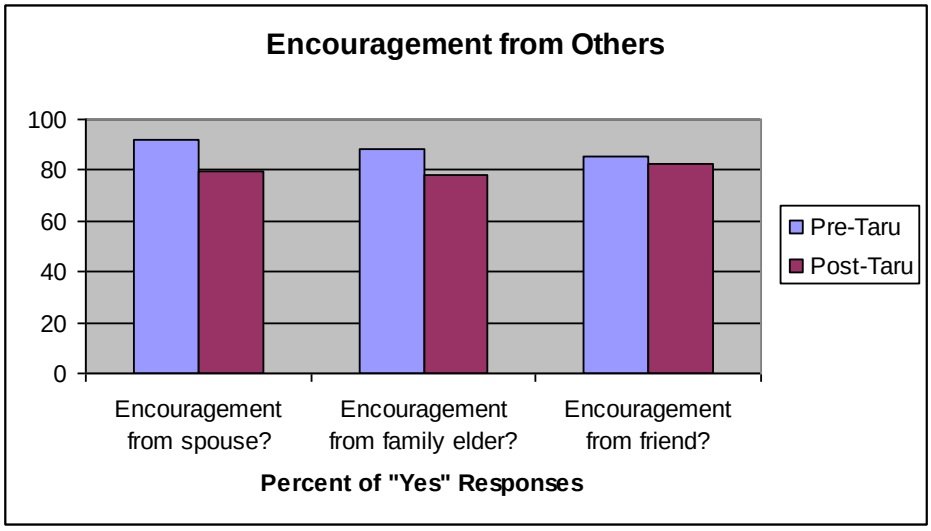
As seen in the chart below, respondents were asked to estimate the extent of approval or disapproval that they believed significant others had towards family planning. Here, the results suggest that after *Taru* aired there was a slightly negative effect on perceived approval of spouse on family planning issues (pre-*Taru* = 95.8%, post-*Taru* = 91.9%), such that the pre-*Taru* group reported greater spousal approval as compared to the post-*Taru* group, $\chi^2(4, N = 1175) = 10.146$, $p = .038$. However, it is important to note that spousal approval was extremely high both before and after *Taru*, with perceived approval ratings in excess of 90% both pre and post-*Taru*. Perceived approval of family elders toward family planning also was very high both pre and post *Taru* (pre-*Taru* = 93.3%, post-*Taru* = 92.4%), the groups differed on their overall pattern of response, $\chi^2(4, N = 966) = 42.078$, $p = .001$. Finally, after *Taru* aired, perceptions of perceived approval from friends toward family planning increased, such that post-*Taru* respondents (94.5%) expressed significantly stronger perceived approval from friends than pre-*Taru* respondents (82.8%), $\chi^2(4, N = 1146) = 63.107$, $p = .001$.

Key Finding: Following the airing of *Taru*, perceived approval from friends on family planning issues increased significantly.



Social Advocacy

Finally, respondents were asked whether or not others encouraged them to use family planning (see chart below). Overall, respondents perceived less encouragement from spouses, elders, and friends to use family planning after the airing of *Taru* as compared to encouragement perceived prior to the broadcast of *Taru*. Over 90% of pre-*Taru* respondents (91.9%) indicated that their spouse encouraged them to use family planning as compared to only 79.9% of spouses encouraging family planning post *Taru*, $\chi^2(1, N = 1175) = 33.237$, $p = .001$. Likewise, post-*Taru* respondents (78%) were less likely than pre-*Taru* respondents (88%) to report that their family elder encouraged them to use family planning, $\chi^2(1, N = 967) = 16.092$, $p = .001$. However, there was no significant difference between pre and post-*Taru* respondents on whether or not their friends encouraged them to use family planning (pre-*Taru* = 85.7%, post-*Taru* = 82.3%).



Individual and Community Empowerment

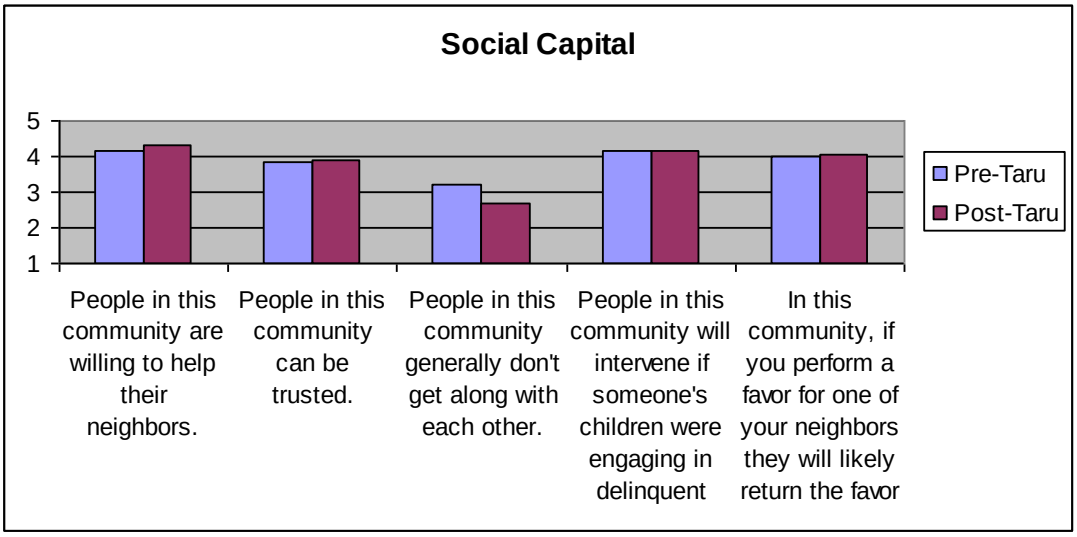
Pre-*Taru* and post-*Taru* groups were compared on their perceptions of self-esteem, the degree of social capital in their communities, and their perceptions of individual and collective empowerment.

Respondents' Self-Esteem

As the chart below indicates, respondents were asked about self-esteem issues. Post-*Taru* respondents (M = 4.06) were more likely than pre-*Taru* respondents (M = 3.84) to say that on the whole, they are satisfied with themselves, $t(1511) = -3.718$, $p = .001$. Likewise, post-*Taru* respondents (M = 1.98) were more likely than pre-*Taru* respondents (M = 2.45) to say that they disagreed with the statement that, at times, they think that that are no good at all, $t(1513) = 7.698$, $p = .001$. However, post-*Taru* respondents (M = 3.29) were less likely than pre-*Taru* respondents (M = 3.50) to agree that they had a number of good qualities, $t(1510) = 3.438$, $p = .001$. Similarly, post-*Taru* respondents (M = 3.05) were more likely than pre-*Taru* respondents (M = 3.63) to agree that they wished they were somebody else, $t(1508) = -8.331$, $p = .001$. No significant differences emerged on whether or not respondents were happy with the way they looked (pre-*Taru*, M = 4.25; post-*Taru*, M = 4.24).

Social Capital

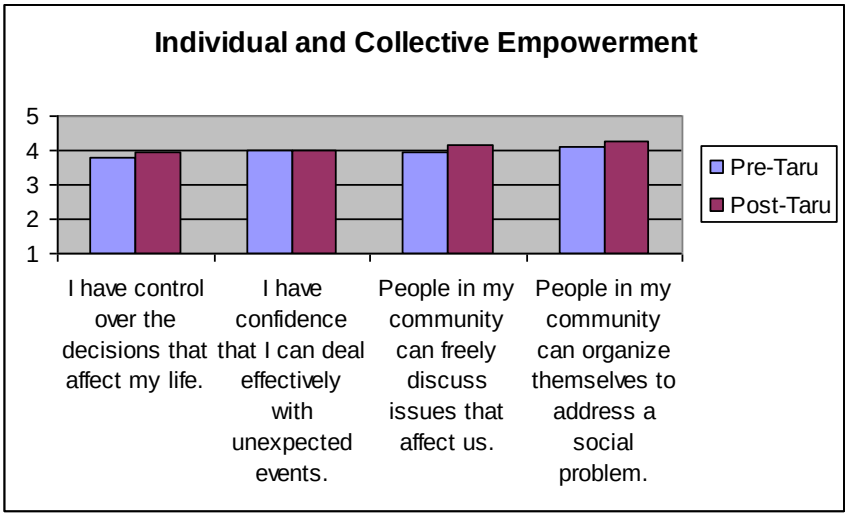
Respondents were surveyed regarding social capital (see chart below). Post-*Taru* respondents (*M* = 4.31) were more likely than pre-*Taru* respondents (*M* = 4.13) to think that people in their community were willing to help their neighbors, *t*(1513) =-3.910 , *p* = .001. Post-*Taru* respondents (*M* = 2.69) also were more likely than pre-*Taru* respondents (*M* = 3.20) to disagree with the statement that people in their community generally didn't get along with each other, *t*(1513) = 8.029, *p* = .001. No significant differences occurred pre versus post *Taru* on whether or not people in their community could be trusted (pre-*Taru*, *M* = 3.83; post-*Taru*, *M* = 3.87) or , if you perform a favor for one of your neighbors, they would likely return the favor at some future date (pre-*Taru*, *M* =3.99; post-*Taru*, *M* = 4.06). Similarly, no significant differences emerged pre versus post-*Taru* on whether or not people in their community would intervene if someone's children were engaging in delinquent behavior (pre-*Taru*, *M* = 4.15; post-*Taru*, *M* = 4.18).



Individual and Collective Empowerment

When asked about individual empowerment, post-*Taru* respondents (M = 3.94) were more likely than pre-*Taru* respondents (M = 3.78) to believe that they had control over the decisions that affected their lives, $t(1510) = -3.156$, $p = .002$. There was no change in perceived confidence about dealing with unexpected events.

When asked about collective empowerment, post-*Taru* respondents (M = 4.18) were more likely than pre-*Taru* respondents (M = 3.95) to believe that "people in my community can freely discuss issues that affect us," $t(1507) = -5.027$, $p = .001$. Likewise, post-*Taru* respondents (M = 4.28) were more likely than pre-*Taru* respondents (M = 4.13) to believe that people in their community could organize themselves to address a social problem, $t(1511) = -3.579$, $p = .001$ (see chart below).



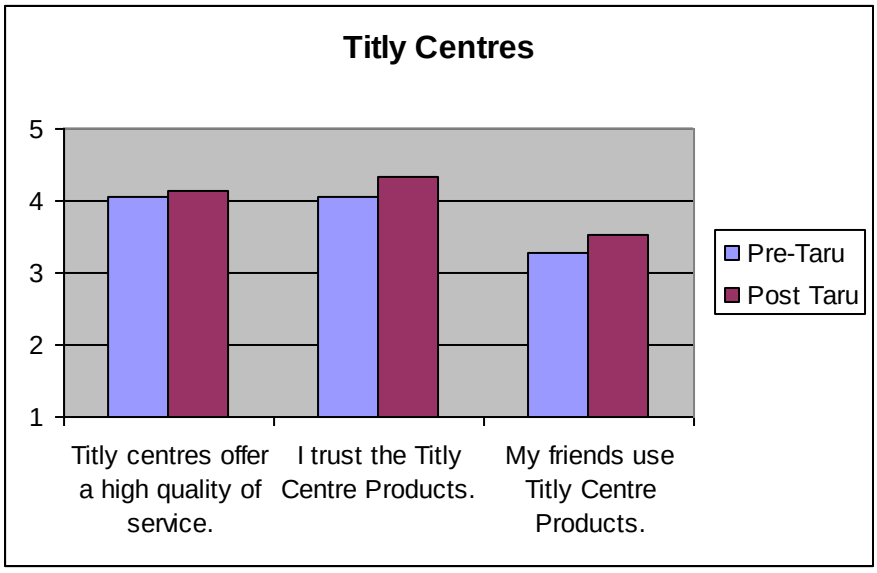
Key Finding: Perceived sense of collective empowerment was significantly increased after the airing of *Taru*.

Janani, Titly Centers, and Surya Clinics.

Pre-*Taru* and post-*Taru* groups were compared on their levels of awareness, as well their attitudes and actions with respect to Janani's service delivery apparatus, including the village-based Titly Centers and the town-based Surya Clinics.

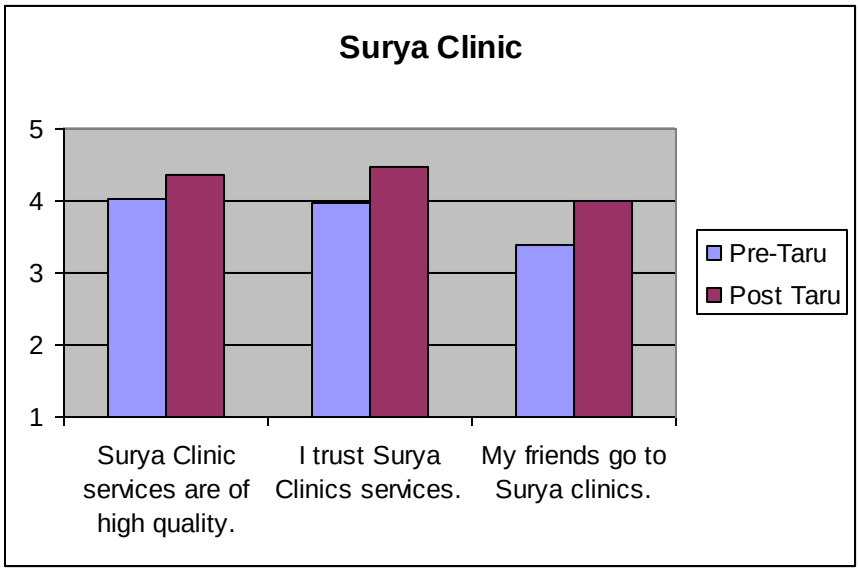
There was no difference pre versus post-*Taru* in awareness of an organization called Janani (pre-*Taru* = 39.4%, post-*Taru* = 43.7%). However, it was more likely for post-*Taru* respondents (62.4%) than for pre-*Taru* respondents (39.4%) to say that they had heard of a Titly Center, $\chi^2(1, N = 1515) = 80.314$, $p = .001$.

If respondents indicated that they had heard of a Titly Center, they were asked about their attitudes towards these Centers (please refer to chart below). There was no significant difference between pre and post-*Taru* respondents in perceived quality of service (pre-*Taru*, $M = 4.05$; post-*Taru*, $M = 4.15$) or awareness of friends who used Titly Center products (pre-*Taru*, $M = 3.28$; post-*Taru*, $M = 3.53$). However, post-*Taru* respondents ($M = 4.32$) were more likely than pre-*Taru* respondents ($M = 4.04$) to say that they trusted the Titly Center products, $t(470) = -3.660$, $p = .001$.



When asked about Titly center services, there was no difference between pre and post-*Taru* respondents for those who had availed themselves to the services. Very few respondents had purchased Apsara pills at the Center (pre-*Taru* = 6.8%, post-*Taru* = 5.5%) or bought Mithun condoms (pre-*Taru* = 5.7%, post-*Taru* = 5.0%). Even fewer respondents reported ever using dipsticks (pre-*Taru* = 3.4%, post-*Taru* = 1.9%) or getting medical advice from Didi (women RMP) (pre-*Taru* = 3.0%; post-*Taru* = 5.0%).

In terms of the Surya clinic, the airing of *Taru* appeared to have a significant effect on awareness of the clinics (pre-*Taru* = 27.8%; post-*Taru* = 37.2%), $\chi^2(1, N = 1515) = 15.061$, $p = .001$. Of those who had heard of the clinic, about one in ten (pre-*Taru* = 11%, post-*Taru* = 9.9%) said that they had been to the clinic, though post-*Taru* respondents were less likely than pre-*Taru* respondents to have visited a Surya Clinic, $\chi^2(2, N = 1515) = 15.227$, $p = .001$. However, of those who had been to a Surya Clinic, post-*Taru* respondents ($M = 4.36$) were more likely than pre-*Taru* respondents ($M = 4.02$) to agree that Surya Clinic services were of high quality, $t(200) = -3.942$, $p = .001$. The post-*Taru* respondents ($M = 4.46$) also were more likely than pre-*Taru* respondents ($M = 3.97$) to say that they trusted Surya Clinic services, $t(192) = -4.848$, $p = .001$. Finally, post-*Taru* respondents ($M = 4.00$) were more likely than pre-*Taru* respondents ($M = 3.39$) to say that their friends went to Surya clinics, $t(141) = -2.724$, $p = .007$ (see chart below).



Key Finding: After the airing of *Taru*, awareness of Surya Clinics increased significantly, as did perceptions that Sury Clinic services were of high quality and trustworthy.

As a test of knowledge, respondents who had been to a Surya clinic were asked to estimate the cost of a number of Surya clinic services. Only about 9% of all respondents were able to give the correct cost of an abortion at Surya clinics (pre-*Taru* = 9.1%, post-*Taru* = 9.3%). Fewer respondents were able to give a correct response regarding the cost of female sterilization at Surya clinics, though post-*Taru* respondents (6.5%) were more likely than pre-*Taru* respondents (3.3%) to give the correct answer, $\chi^2(2, N = 488) = 8.777$, $p = .012$. Even fewer respondents were able to give a correct response regarding the cost of male sterilization at Surya clinics, though, once again, post-*Taru* respondents (4.3%) were more likely than pre-*Taru* respondents (1.0%) to give the correct answer, $\chi^2(2, N = 488) = 10.456$, $p = .005$. Finally, though the number is minimal, post-*Taru* respondents (5.4%) were more likely than pre-*Taru* respondents (2.4%) to give a correct answer regarding the cost of pregnancy tests at Surya clinics, $\chi^2(2, N = 488) = 8.409$, $p = .015$.

Key Finding: Pre-*Taru* respondents were less able than Post-*Taru* respondents to correctly name the prices of Surya clinics' services. After *Taru* aired, respondents who had been to Surya clinics were significantly more likely to name the correct price of female sterilization, male sterilization, and the cost of a pregnancy test.

Conclusions

Before *Taru* aired, respondents in the sentinel site area had significantly weaker beliefs about gender equity and family planning, and perceived greater barriers to achieve gender equity and small family size. Fewer people used certain family planning methods, and fewer people felt that their friends and family members approved their use of family planning methods. However, respondents in the sentinel site area one year after the broadcast of *Taru* displayed significantly stronger outcomes on these key variables. The most promising results are highlighted below.

Taru appeared to have a significant and consistent effect on gender equality perceptions. After *Taru* aired, respondents held significantly stronger gender equality beliefs. This is a key finding as one of the goals of *Taru* was to promote gender equality.

Another goal of *Taru* was to increase modern family planning method usage and associated beliefs and attitudes. In this case, the post-*Taru* sample performed much better on these variables as compared to the pre-*Taru* sample. Specifically, awareness of various modern family planning methods increased significantly after the year-long broadcast of *Taru*. After *Taru* aired, perceived approval from friends on family planning issues increased. The Post-*Taru* sample reported an enormous rise in the usage of Apsara oral contraceptive as compared to the pre-*Taru* sample. Similarly, the use of modern family planning methods (with the exception of vasectomy) significantly and consistently increased after the one-year *Taru* show aired. Perceived barriers to family planning methods were significantly and consistently lower across several items after *Taru* aired as compared to the previous year. Similarly, perceived quality of family planning services and knowledge about where to go to get family planning services increased significantly from pre-*Taru* to post-*Taru*. After the airing of *Taru*, awareness of Surya clinics increased significantly, as did the perception that Surya Clinic services were of high quality and trustworthy.

Finally, another goal of *Taru* was to affect certain community level variables. Indeed, the pre-post sentinel site data shows that perceived collective empowerment significantly increased among respondents who listened to *Taru*. Similarly, some social capital variables were influenced in the desired direction such that post-*Taru* respondents felt that their communities displayed greater degrees of social capital when compared to the pre-*Taru* respondents.

This data set holds much promise for future advanced statistical analysis. First, further analysis should be conducted to see the extent to which respondents talked about family planning issues with friends, as this "perceived" approval may reflect discussions with friends, where respondents found out their friends approved of family planning.

Second, it is suggested that current users versus non-users of Apsara oral contraceptive pills be examined more closely as a dependent variable, with predictors such as susceptibility, severity, self-efficacy, response efficacy, norms, barriers, etc., given the enormous rise in Apsara Pills usage that was reported pre and post-*Taru*. Third, careful advanced statistical analysis needs to be conducted that examines the dose response relationship between exposure to *Taru* and key outcome variables (e.g., the relationship between the number of episodes viewed and outcomes).

There are several limitations to the analysis presented above. The changes pre and post-*Taru* may have been due to historical or other unanticipated trends. However, examining the dose response relationship (as mentioned above) while controlling for demographic and psychographic variables may eliminate some of these threats to validity. Further, this study's findings form part of the overall picture illuminating the effects of *Taru*. This pre-post sentinel site analysis suggests strong and consistent findings for key variables such as gender equity beliefs and use of modern family planning methods– although significant threats to validity exist. However, if other studies on *Taru* point toward similar findings, then the preponderance of evidence would imply that the radio serial drama *Taru* had strong and consistent pro-social effects.

TARU PROJECT – QUANTITATIVE REPORT #3

A Four-Group Quasi-Experiment to Assess the Effects of On-the-Air and Ground-Based Activities on *Taru* Respondents

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A Four-Group Quasi-Experiment to Assess the Effects of On-the-Air and Ground-Based Activities on *Taru* Respondents

The purpose of this four group quasi-experiment study was to compare the effects of more/less intensive on-air and ground-based activities on audience members before, during, and after the broadcasts of *Taru*. The four groups included:

(1) A control group (labeled "C") with no on-air or ground-based exposure to any *Taru*-related activity.

(2) A *Taru*-only group (labeled "T") with only on-air exposure to *Taru's* broadcasts.

(3) A *Taru*-plus-Janani group (labeled "J+") with on-air exposure to *Taru's* broadcasts plus limited ground-based activities, including the presence of a local Janani-networked Titly Center and a rural health practitioner (RHP), and on-ground pre-broadcast publicity of *Taru* through posters, stickers, and flyers.

(4) a *Taru*-plus-highly orchestrated Janani group (labeled "J++") with on-air exposure to *Taru's* broadcasts plus intensive ground-based activities, including the presence of a local Janani-networked Titly Center; on-ground pre-publicity of *Taru* through posters, stickers, and flyers; conduct of *Taru* folk performances prior to the launch of *Taru*; multiple established *Taru* listening groups; and a highly visible rural health practitioner (RHP) who facilitated the activities of the listening groups, including the maintenance of a *Taru* listeners' club diaries.

Research Design

A quasi-experiment was conducted comparing four matched sites exposed to various intensities and modalities of exposure to *Taru* and ground-based activities in a panel design before, during, and after *Taru* (i.e., the same persons were interviewed each time), in the following manner:

CONDITIONS	DESIGN			
	O_1	X_{1-26}	O_2	X_{26-52}	O_3
J++	400		same 400		same 400
J+	400		same 400		same 400
T	400		same 400		same 400
C	400		same 400		same 400
Total N	1,600		1,600		1,600

O_1 = Observation I – Baseline Survey (completed before Feb. 22, 2002)

X_{1-26} = Intervention I (first 26 episodes of *Taru*)

O_2 = Observation II – Mid-Term Survey (completed the last two weeks of August, 2002)

X_{26-52} = Intervention I (last 26 episodes of *Taru*)

O_3 = Observation III – Impact Survey (completed after Feb. 22, 2003)

A quasi-experimental design allows us to control for differences between groups so that they vary only on the intervention variables. By doing this, our claims about the on-air effectiveness of *Taru* and the ground-based activities through Janani are much stronger.

Sample

A panel of respondents (n = 1,600 total; 400 per group) was randomly selected from the four different condition sites and were followed across three time periods. The sample was narrowed to our focal population of men and women 20-30 years of age, who are in their prime child-bearing years.

Survey Instrument

An in-depth survey instrument -- akin to the one used in the pre-post sentinel site survey (reported to PCI in quantitative report #2) -- was also used for the present quasi-experiment study.

Research Sites

The J++, J+, and T quasi-experiment sites were all located in District Muzaffarpur of Bihar State. District Muzaffarpur, according to the 2001 census figures, has a population of 3.7 million people of which 91 percent lives in rural areas (Population Foundation of India [PFAI], 2002, p. 58)). District Muzaffarpur ranked 523 among all 590 Districts of India in the Reproductive Health Composite Index. The following 2001 census statistics further substantiate the grim social conditions in Muzzaffarpur District (PFAI, 2002, p. 7): Its sex ratio is 928 women to 1000 men; its male literacy rate is 60 percent and female literacy rate is 35 percent; some 54 percent of the girls here get married before the legal age of 18; its total fertility rate (TFR) is 5.1; its contraceptive prevalence rate (CPR) is 25 percent among all eligible couples; only 31 percent of its children are completely immunized; and 81 percent of its children are underweight.

The control quasi-experiment site (C) was located on the eastern side of India's Uttar Pradesh State, across the western border of Bihar State, had comparable reproductive health indicators to this district.

Results

As noted previously, a longitudinal four-group quasi-experimental study was designed to empirically assess the impact of the on-air *Taru* intervention and the ground-based pre-program publicity and service delivery activities on people's attitudes, perceptions and behaviors towards gender equality, family planning, and social justice. Each of the four groups in the study received varying degrees/intensities of activities as outlined previously. Data on the outcome variables was collected from respondents in all four groups at three distinct points in time -- prior, during, and after the interventions were administered.

The Power of Ground-Based Orchestration

Table 1 provides a snap-shot summary of the number of respondents in each of the four quasi-experimental groups, including the small number of respondents who had

heard about *Taru*, and even a smaller number that listened to the radio program. Table 1* also shows the mortality faced during the mid-broadcast survey in all four groups, a condition that was partially overcome through more concerted efforts to contact the original respondents in the post-broadcast survey.

Table 1. Number of respondents in the four quasi-experimental groups who had (1) heard of *Taru* and (2) listened to *Taru* across the three time-periods of study.

Time of Survey	Quasi-Experiment Groups			
	J++ J+	T	C	
Pre-broadcast	N=408	N=400	N=408	N=408
		No listenership to *Taru*		
Mid-Broadcast	N=293	N=281	N=273	N=227
% heard of *Taru*	82(28%)	44(16%)	9(3%)	3(1%)
% listened to *Taru*	18(6%)	9(3%)	0(0%)	0(0%)
Post-Broadcast	N=346	N=351	N=352	N=349
% heard of *Taru*	82(24%)	47(13%)	25(7%)	4(1%)
% listened to *Taru*	45(13%)	11(3%)	3(1%)	4(1%)

Despite the low numbers of *Taru* listeners The most revealing finding of Table 2 shows that during the mid-broadcast and the post-broadcast surveys, the higher the intensity of the on-air/on-ground intervention, the higher the percent of respondents (1) who had heard of *Taru*, and (2) who listened to *Taru*.

Post-broadcast surveys indicate that listenership to *Taru* was 4.3 times higher among the J++ group as compared to the J+ group, and 13 times higher in the J++ group as compared to the *Taru*-only (T) group. Further, listenership in the J+ group was 3 times higher than in the T group. This, unequivocally, points to the value that intensive ground-based orchestration adds to the on-air component.

Further, in the J++ group listenership increased over time: Listenership in the post-broadcast survey was 2.2 times higher than in the mid-broadcast survey. Across the same time period, listenership was constant in the J+ group, and up marginally in the T group. This suggests that in environments where there is enhanced "buzz" about an entertainment-education initiative, some listeners get on the soap opera train, perhaps goaded by other regular listeners.

Table 2 also suggests that entertainment-education interventions tend to spur a great deal of interpersonal communication among audience members, and also between audience members and their spouses, children, relatives, and friends, who may not be "directly" exposed to the E-E intervention, but who have heard about the program and its contents. The post-broadcast surveys suggest that almost 1.8 times the number of people in the J++ group had heard about *Taru* compared to those who had listened to *Taru,* and almost 4.3 times the number of people in the J+ group had heard about *Taru* compared to those who had listened to *Taru.* This finding suggests that the message of *Taru* was diffused via interpersonal channels.

The figures in Table 1 lead us to making several key decisions about what further analysis to undertake. Given the low numbers of *Taru* listeners in the mid-broadcast survey -- 18, 9, and 0 respectively, in the J++, J+, and T groups, we are compelled to

only focus on the across group analysis for the post-broadcast surveys, where the numbers of *Taru* listeners, respectively, are 45, 11, and 3 in the J++, J+, and T groups.

The results of the present study are thus reported in the following order: First, a detailed description of the comparative demographic characteristics of the participants in this four quasi-experiment groups are presented. Then the results of analyses of the differences between the four groups on outcome variables observed at the summative phase (post-broadcast survey) are presented.

Description of the Sample

Control Group(C)

The control group was composed of 408 respondents between the ages of 20 and 30 years, all of whom lived in the Sardar (66.9%), Sardar Basti (19.9), and Basti (13.2%) blocks of rural Uttar Pradesh. Some 45.8% of the respondents were male and the rest (54.2%) were female. Their average age was 25.4 years. The majority of the respondents (84.1%) were married. The average number of household members for this sample was 7.96, with an average of 2.14 children per household.

The majority of the respondents in the control group (81. 6%) were Hindus, while the rest (18.4%) were Muslims. While almost half the sample in this group indicated that religion had a great influence and guided everything they did (48.6%), about the same proportion (43.9%) stated that religion had little or no influence in their lives.

Respondents were also asked about their level of education. Almost half the respondents (49.5%) in this sample reported that they were illiterate and a little over one fifth of them (21.3%) had attended up to middle school (6-10 grade). While half the respondents surveyed (51.5%) could not read the newspaper at all, 41.7% of the sample reported that they could read newspaper easily.

With regard to the occupational background of the respondents in this group, only a minority in this sample (5.6%) reported to be unemployed. A little less than half the sample was housewives (47.3%), followed by self-employed individuals (11.5%) and

laborers (10.3%). The rest of the respondents were agricultural laborers, farmers, government and private employees, skilled workers, and business owners.

The average monthly income for the control group was Rupees 2,467.00. When asked about their financial status, the majority of the sample (89.2%) reported that they had enough food to eat. A minority proportion (2.2%) of the sample indicated that they often did not have enough food to eat.

Respondents were also asked to provide information on their health care practices. Fewer than half the respondents in the control group (44.4%) had not visited a health provider the past year, while a quarter of the respondents (25.8%) had visited a health provider once or twice. About one tenth (10.3%) of this sample reported visiting a health provider once or twice a month. More than three quarters of the sample visited a private doctor (77.94%), and 16.42% visited the government hospital. No one had visited a Titly or a Surya center, and only 1% (n=4) of the sample had visited a local rural health practitioner (not affiliated with Janani) for medical consultation.

Almost one third of the control group respondents (31.6%) watched TV daily or several times in a week. The majority, however, (50.5%) did not watch Television. The remaining respondents watched television at least once a week (10.8%), or once a month (5. 9%). Only five individuals (1.2%) reported not having a working television. As regards radio listenership, the majority in this sample did not listen to the radio (46.1%). The rest listened to the radio either daily or several times in a week (39.2%), at least once a week (8%) or once a month (3.2%). A minority in this group (2.7%) did not have a working radio. All of those who listened to the radio in this group listed to the news programs. Only 2.2% (n=9) of this sample heard of the radio serial *Ka Karoo Janani*, and a negligible proportion (0.5%, n=2) had heard of *Taru*.

Taru-Only Group (T)

The *Taru*-only group was composed of 408 respondents between the ages of 20 and 30 years, all of whom lived in the Khundni (49%) and Turki Khundni (51%) blocks of Muzafarpur district in rural Bihar. A little fewer than half the respondents (45.6%)

were male and the rest (54.4%) were female. Their average age was about 25.34 years. The majority of the respondents were married (80.4%) at the time of this survey. The average household size for respondents in this T group was 7.15 members with a mean number of 2.27 children per household.

The vast majority of respondents in this sample (85%) were Muslims, and the rest (15%) were Hindus. Among Hindus, the majority (52.5%) belonged to the Chamar, Mochi, and Harijan castes, followed by 14.8% who belonged to the other category. While half the sample (50.3%) in this group indicated that religion had a great influence and guided everything they did, one-third of the respondents (33.6%) stated that religion had little or no influence on what they did.

Almost half the respondents in this group (46.3%) reported that they were illiterate and a little under one fifth of the respondents (18.4%) had attended middle school (6-10 grade). While half the respondents surveyed (51.5%) could not read the newspaper at all, less than one third (31.1%) of the sample reported that they could read newspaper easily.

With regard to the occupational background of the respondents in this group, a minority (3.2%) of the sample reported that they were unemployed. A little over half the sample was composed of housewives (52.2%), followed by self employed individuals (12.5%), and laborers (9.3%). The rest of the sample was composed of agricultural laborers, farmers, government and private employees, skilled workers, and businesspersons. The average monthly income for respondents in this sample was Rupees 2,141.00. When asked about their financial status, a little over one third of the sample (36.7%) reported that they had enough food to eat. Less than one fifth of the respondents (15.7%) indicated that they did not have enough food to eat.

With respect to the health care practices of respondents in this T group, a little more than one fifth of the respondents in this group (22.8%) had not visited a health provider the past year, while more than a quarter of the respondents (27.4%) had visited a health provider once or twice in the past year. Less than one fifth (16.4%) of this sample

reported having visited the health provider once or twice a month. More than two thirds of the sample respondents (68.38) visited a private doctor for medical treatment, followed by visits to the rural health practitioners (10.5%), and government hospitals (10.29%). No one had visited a Titly or Surya center for medical consultation.

The majority of the T sample (41.2%) did not watch television at all, while over one third the sample (36.7%) watched TV daily or several times a week. The rest watched television at least once a week (12.7%), or once a month (6.9%). Only ten individuals in the entire sample (2.5%) reported not having a working television. Fewer than half the respondents (44.2%) reported listening to the radio either daily or several times a week, while more than one third the sample (39%) never listened to radio. The others in the sample either listened to the radio at least once a week (8.8%), or once a month (6.4%). Only 1.7% in this sample did not have a working radio. Of those respondents who listened to the radio (n=228), all of them reported that they listened to music programs. Only 1.7% of the respondents (n=7) in this sample had heard of *Taru,* while one tenth (10.3% n=42) had heard of *Ka Karoo Janani*. Those who had heard of *Taru* had probably heard of it through on-air or on-the-ground pre-program publicity that was conducted for *Taru*.

Taru-Plus-Janani Group (J+)

The J+ group was composed of 400 respondents between the ages of 20 and 30 years, all of whom lived in the Madwan Block area of Muzzaffarpur District in rural Bihar. Half the respondents (50.3%) were male and the rest (49.8%) were female. Their average age was about 25 years. Most respondents were married (87.8%) at the time of this survey. The average household size of the respondents in this group was 8.43 person with a mean number of of 2.04 children per household.

The vast majority of the sample (81.8%) was Hindus, while the rest (18.3%) were Muslims. Among Hindus, more than a quarter of the sample (28.7%) belonged to the 'other category,' followed by 16.8% of respondents who belonged to the Paswan, Dusad, and Kewat castes. Interestingly, while 46% of the respondents indicated that religion had

a great influence and guided them in what ever they do, nearly the same proportion (42.8%) of respondents stated that religion had little or no influence.

Many respondents in this group (44.8%) were illiterate. One fourth of those surveyed (25.3%) had attended middle school (6-10 grade). While almost half the sample (47.5%) could not read the newspaper at all, a little over one third (39.8%) reported that they could read the newspaper easily.

With regard to the occupational background of this sample, a small minority (2%) reported that they were unemployed. A little less than half the sample was composed of housewives (46.3%), followed by laborers (20%) and self employed individuals (11%). The rest of the sample was composed of agricultural laborers, farmers, government and private employees, skilled workers and businesspersons. Respondents in this group earned an average monthly income of Rupees 2,071.25. When asked about their financial status, 60.1% of the sample said that they had enough food to eat, while 3.3% of the sample reported that they did not have enough food to eat.

With regard to the health care practices of members in this group, a little more than one quarter of the respondents in this group (28. 5%) had not visited a health provider at all during the past year, while 23% of the respondents had visited a health provider once or twice during the year. Among respondents in this sample, 15.3% reported having visited the health provider once or twice a month. Almost three quarters of the sample (73.55%) visited a private doctor, some 17.1% went to government hospitals, and only 3.5% visited RMPs. Interestingly, no one had previously visited a Titly Center or Surya Clinic for medical assistance (despite their presence in the this research site).

Half the J+ sample (50.3%) did not watch television, while almost one fifth (19.8%) reported watching TV daily or several days in a week. The rest either watched television at least once a week (11.8%), or once a month (18%). Only one respondent in the entire sample (0.3%) did not own a working TV. With respect to radio listening habits, 39.6% of the respondents in this group reported listening to the radio either daily or several

times in a week. In contrast, one third of the respondents (33.8%) in this group never listened to the radio. The rest listened to the radio, at least once a week (11%) or once a month (14%). A small minority in this sample (1.8%) did not own a working radio. Of those who listened the radio, all of them reported listening to music programs. Of the total number of respondents in this sample, 15.3 % (n= 61) had heard of the radio serial *Ka Karoo Janani* and 1.5% (n=6) had heard of *Taru*. Of the respondents who reported having heard of *Taru*, all of them had heard about the serial either on radio or through a friend/family member.

Taru-Plus-Janani-Plus-Field Orchestration Group (J++).

The J++ group was composed of 400 respondents between the ages of 20 and 30 years, all of who lived predominantly in the Turki Khundni (65.3%), Khundni (24.3%), Mushari and Turki (10.5%) blocks of Muzafarpur district of rural Bihar. The sample was composed of almost equal halves of male (49%) and (51%) female respondents. Their average age was 25.46 years. Most respondents were married (84.5%) at the time of this survey. The average number of household members for this sample was 6.94 members, with a mean number of of 1.83 children per household.

Almost all respondents in this sample (98.8%) were Hindus, while the rest (1.3%) were Muslims. Among Hindus, the majority (28.6%) belonged to the Kurmi caste, followed by the Bhumiyar caste (18%), and the Paswan, Dusad, and Kewat castes (14.7%). Similar to the J+ group, 42.5% of this sample indicated that religion had a great influence and guided everything they did, and an approximately equal proportion of respondents (44.3%) stated that religion had little or no influence.

With regard to the level of education of respondents in this group, more than one third (35.3%) were illiterate and exactly one quarter (25%) had attended Middle school (6-10 grade). While a little over one third of the respondents surveyed (38.5%) could not read the newspaper at all, less than one half of the sample (47%) reported that they could read the newspaper easily.

With regard to the occupational background of respondents in this sample, 8.8% were unemployed. The majority of the sample was composed of housewives (46%). One in ten of those surveyed (10.8%) were farmers, followed by self-employed individuals (8%). The rest of the sample was composed of agricultural laborers, laborers, government and private employees, skilled workers, and business. The average monthly income for the J++ group was Rupees 2,728.00. When asked about their financial status, half the sample (50.6%) said that they had enough food to eat, while 14.3% of the sample reported that they did not have enough food to eat.

Respondents were also asked to provide information on their health care practices. Of all the respondents in this group, 17.3% had not visited a health provider at all the past year, while 30.6% had visited a health provider once or twice in the past year. About one fifth (20.8%) of the respondents reported having visited the health provider once or twice a month. Almost two thirds of the sample visited a private doctor (64.74%), one in five (19.65%) went to a government hospital, and a little fewer than one in ten (9.6%) visited RMPs. Only a minority in the sample had visited a Titly Center (0.8% n=3) or a Surya center (0.25%, n=1), for medical assistance. The one respondent who went to the Titly Center said he liked it, especially because it was close to his house. The other two respondents visited the Titly center because of the good quality care and the inexpensive price that the center charged for its services. The one respondent who visited the Surya Clinic said that it offered low prices and good quality of services.

Almost half the respondents (47.8%) watched TV daily or several times in a week. In contrast, one third (33.3%) of the respondents did not watch TV at all, while the remaining either watched TV once a week (10.8%), or once a month (6%). Only 9 individuals (2.3%) in this group did not have a working TV. With respect to radio listening habits, more than half the respondents (57.6%) reported listening to the radio either daily or several times a week. Almost one fourth of the respondents (24.3%) did not listen to the radio at all, 8.5% listened once a week, and 6.3% listened once a month. Only 3.5% of the sample did not have a working radio. All respondents reported listening

to music programs on radio. Of the total respondents in this group, almost one quarter (24.3%, n=97) of them had heard of *Ka Karoo Janani* and a small minority (2.5%, n=10) had heard of *Taru*. Of the respondents who reported having heard of *Taru*, all of them reported having heard about the serial on the radio.

Overall, the four groups were relatively comparable on key demographic variables, indicating a good match of the four communities for the quasi-experiment.

Summative Results After One year of Taru*'s Broadcasts*

As noted previously (based on Table 1), given the low numbers of *Taru* listeners in the mid-broadcast survey in the J++, J+, and T groups – 18, 9, and 0, respectively, we focus our across group analysis for the post-broadcast surveys, where the numbers of *Taru* listeners, respectively, are considerably higher -- 45, 11, and 3, respectively. Following are the results from the summative post-broadcast evaluation.

Gender Equality Results

Table 2 shows the percent of respondents across the four groups who either strongly agree or agree with the following gender equality statements.

Table 2: Across Group Attitudes on Gender Equality

Statement	C	T	J +	J++
Males and females should have equal rights	97.2%	91.2%	89.7%	93.6%
Boys should help with housework the way girls do	93.1%	73.8%	73.7%	73.9%
A male child is preferable to a female child	48.8%	55.7%	51.6%	61.3%
When resources are scarce only boys should be sent to school	57.9%	21.9%	28.1%	20%
Its okay for a man to beat his wife as a sign of discipline if she does something wrong	14.3%	11.4%	24.8%	11.8%
A woman should not question the authority of a man	59.6%	26.9%	58%	29.6%
Women cannot make as good decisions on important matters as men can	58.4%	27.9%	43.1%	31.9%
A bride's family must pay dowry to the groom's family	54.5%	24.8%	43.9%	29.8%
A daughter-in-law must be willing to sacrifice her happiness for her mother-in-law	77.6%	80.1%	58.4%	62.1%
Girls should be allowed to continue studying as much as they want	97.1%	95.1%	94.6%	94.8%
If parents don't want a girl child, they should be free to terminate pregnancy	52.6%	12.6%	15.1%	18.8%
The family line continues only through the male children	85.7%	54.5%	60%	66.2%
Having male children increases family's prestige	68.2%	63.3%	78.3%	72.9%
Sons can provide economic security in old age but not daughters	48.7%	20.6%	36.9%	22.7%

Analyses of potential differences between groups on responses to some of the gender equality statements were conducted. Responses to the statement, "Males and females should have equal rights," were significantly different across the four groups, F= (3,1392)= 15.75, p = .0001. The control group members (M= 4.01) had less positive attitudes toward equal rights for males and females, compared to the *Taru*-only (T) group (M= 4.30, p=. 0001), the J+ (M= 4.25, p=. 0001), and the J++ groups (M= 4.41, p=.

0001). The J+ group was significantly less likely to agree with this statement compared to the J++ group (p=. 006).

Groups differed in their opinions on whether boys should help with housework the way girls do, F= (3,1390) = 7.26, p = .0001. Although the control group participants expressed least positive opinion towards equal rights for males and females, they were most likely to believe that housework should be shared between boys and girls equally (M=3.92), in comparison to the T group (M= 3.54, p=. 0001), the J+ group (M= 3.60, p=. 0001), and the J++ group members (M= 3.70, p=. 01). Responses of the T group did not differ significantly from the J+ or the J++ groups. The J+ group respondents also did not differ from the J++ group participants in their attitude toward shared participation in housework.

Groups expressed differential preference for male children versus female children, F = 3, 1391 =8.46, p=. 0001. The control group members (M= 3.02) were less discriminating in their preference, in comparison to the J+ (M= 3.35, p=. 001) and the J++ group members (M=3.39, p=. 0001). Their preferences for a male child (versus a female child) were similar to the T group choices (M=3.04). The T group members were less likely to choose a male child over a female child, in comparison to the J+ (p=. 001) or the J++ group members (p=. 0001.) The J+ group respondents were as likely as the J++ group participants to prefer a male child to a female child.

Groups differed in their opinion on whether sons alone should be sent to school if they lacked resources, F (3, 1394)=63.63, p=. 0001. In comparison to the T group (M= 2.26) and the J+ group (M=3.05), the control group members (M=3.19) favored sending their sons (and not daughters) to school when resources were scarce (p=. 0001). The T group members were less likely to think that this should be the case, when compared to the J+ group (p=. 0001). Similarly the J++ group (M=2.23) was also less likely than the J+ group to believe that sons alone should be educated when resources were meager (p=. 0001).

The three-item scale measuring attitude toward male children versus female children was administered once again in the summative phase [3] Alpha for this scale was .74. Significant differences were found between groups, F (3, 1394)=26.95, p=. 0001. The control group members (M=3.36) were more likely to favor male children in comparison to the T group participants (M=2.85, p=. 0001). The *Taru*-only group members were least likely to choose male over female children, in comparison to any other group (p=. 0001). The J+ group members (M=3.49) were more positive toward male children in comparison to the J++ group (M=3.24, p=. 001). All other comparisons between groups were not statistically significant.

Groups thought differently about whether it was okay for a man to beat his wife as a sign of discipline if she did something wrong, F (3, 1394)=17.43, p=. 0001. The control group (M= 2.29) was significantly more likely to think that wife beating was appropriate, in comparison to the *Taru*-only (T) group (M= 1.86, p=. 0001) and the J++ group (M=1.97, p=. 0001). The T group respondents were significantly less approving of this in contrast to the J+ group members (p=. 0001). The J+ group (M=2.33) was more likely to be okay with wife beating as a mark of discipline, in comparison to the J++ group (p=. 0001).

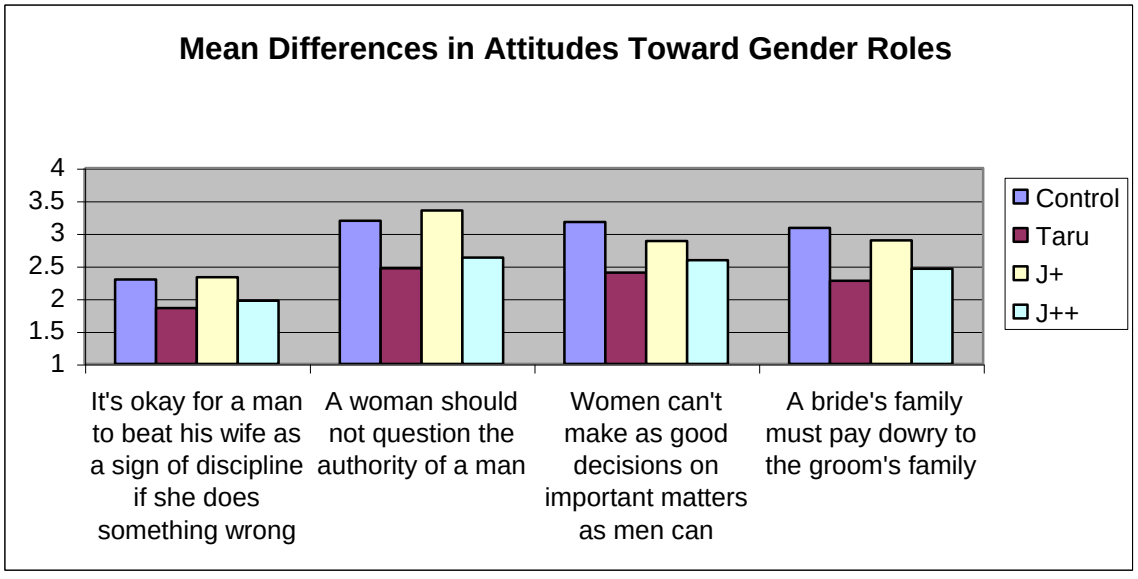
Groups also differed significantly in their responses to the statement "A woman should not question the authority of man," F (3, 1381) = 48.01, p=. 0001. The control group members (M=3.19) expressed more agreement with the statement in comparison to the T group (M= 2.46, p=. 0001) and the J++ group respondents (M= 2.63, p=. 0001). The *Taru*-only group members were less likely to agree, in comparison to the J+ group members (M=3.35, p=. 0001). The J+ group members were more likely to agree with the statement in comparison to the J++ group respondents (p=. 0001).

Significant differences in opinions about whether women were capable of making as good decisions on important matters as men emerged between groups, F (3, 1392) =

[3] The three items were "The family line continues only through male children," "Having male children increases a family's prestige," "Sons can provide economic security in old age but not daughters."

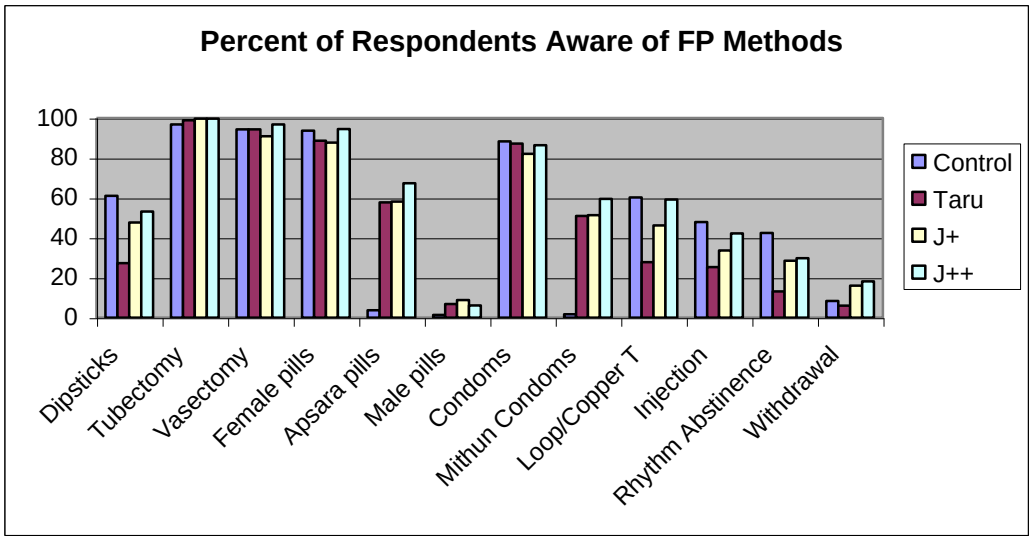
26.18, p = .0001. The control group members (M=3.17) were most likely to believe that women did not have the capacity to make as good a decision as men, in comparison to the T group (M= 2.40, p= .0001), the J+ group (M= 2.88, p=. 002), and the J++ group members (M= 2.59, p=. 0001). The T group sample was also less likely to think that women and men differed in their capabilities to make important decisions, compared to the J+ (p=. 0001) and the J++ groups (p=. 04). The J+ group had more faith in men's abilities to make important decision than the J++ group (p=. 0001).

Lastly, respondents were asked whether they thought that the bride's family should pay dowry to the groom's family. Significant differences in responses to this question were also observed, F (3, 1391)=28.68, p=. 0001. Respondents in the control group (M=3.08) were more in favor of bride's family paying dowry, than participants in the T group (M=2.27, p=. 0001) and the J++ group (M=2.46, p=. 0001). The T group respondents were less likely to agree with this position than the J+ (M=2.89) and the J++ group respondents. The J+ group members favored this idea more than the J++ group members (p=. 0001). See chart below for mean differences in attitudes towards gender roles.

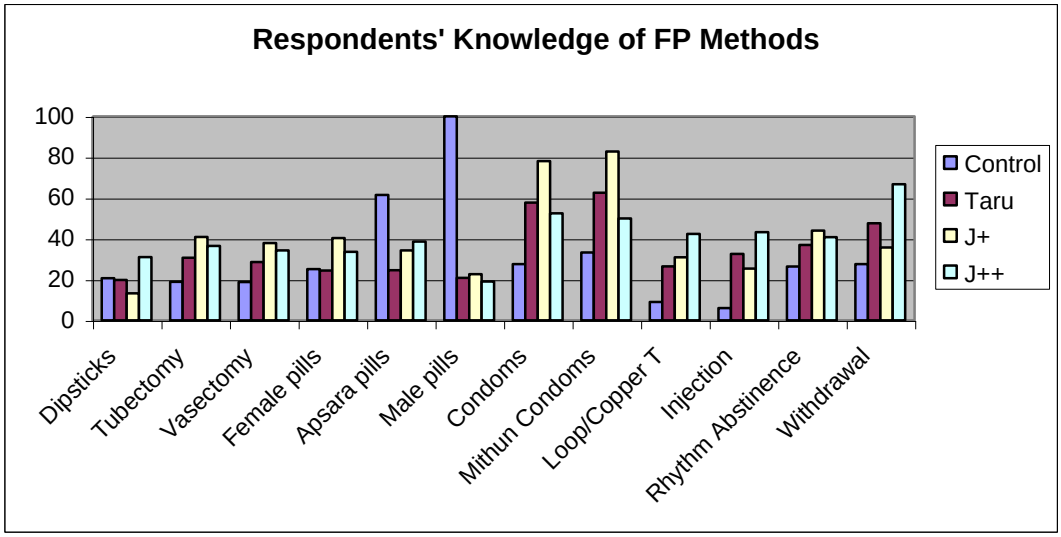


Awareness, Knowledge, and Use of Family Planning Methods

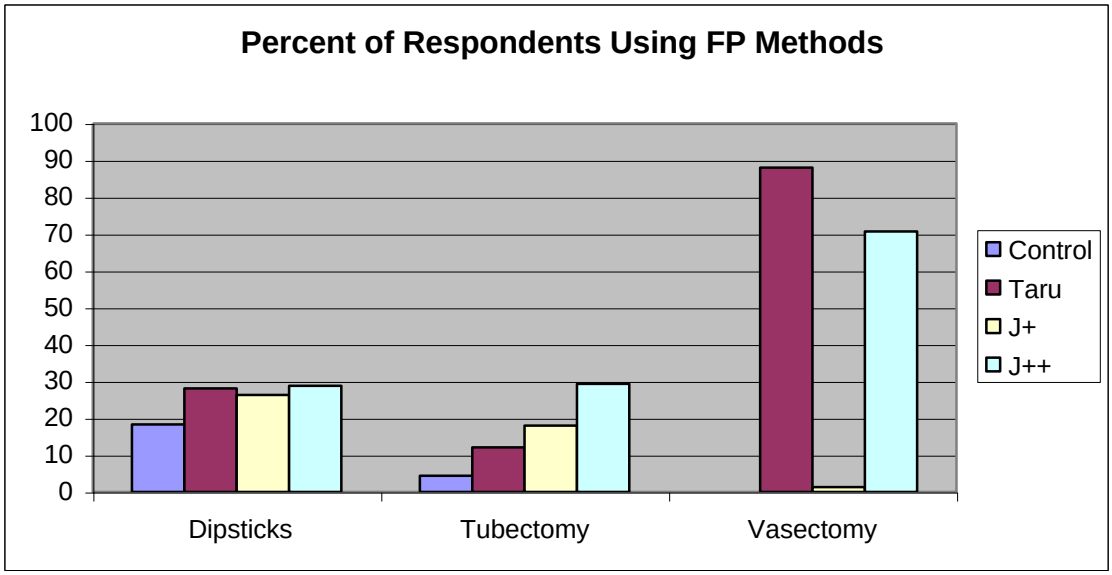
Respondents in the study were asked about their awareness of various family planning (FP) methods. The chart below shows their overall awareness of various family planning methods by group.



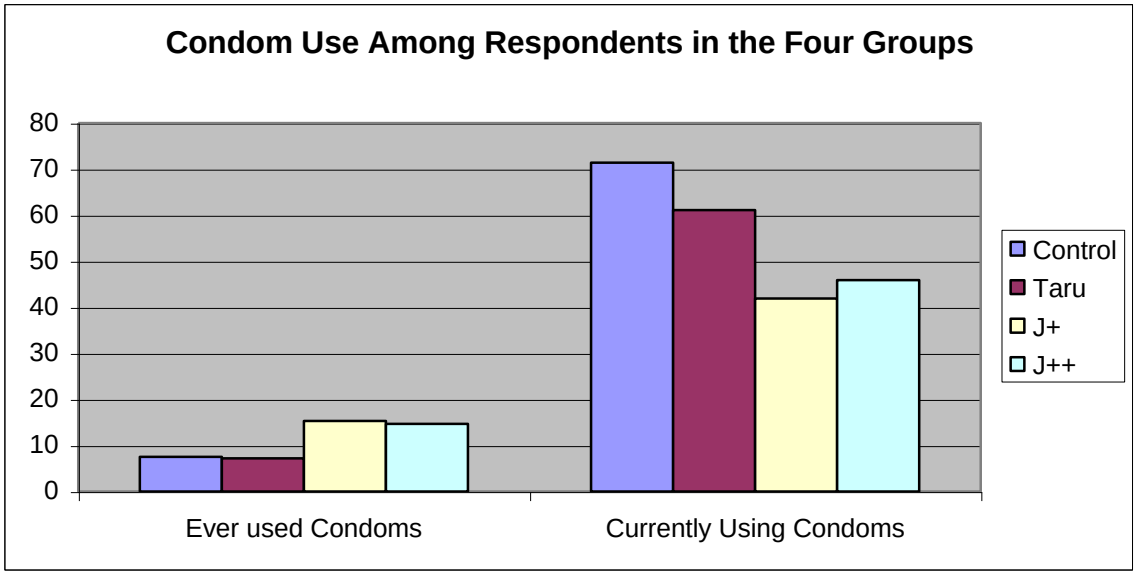
The percentage of respondents having complete and proper knowledge about family planning methods among respondents, who indicated awareness of a particular method, is presented in the chart below.



Respondents who indicated awareness of a particular family planning method also indicated whether they had ever used any of the family planning methods in the table below.



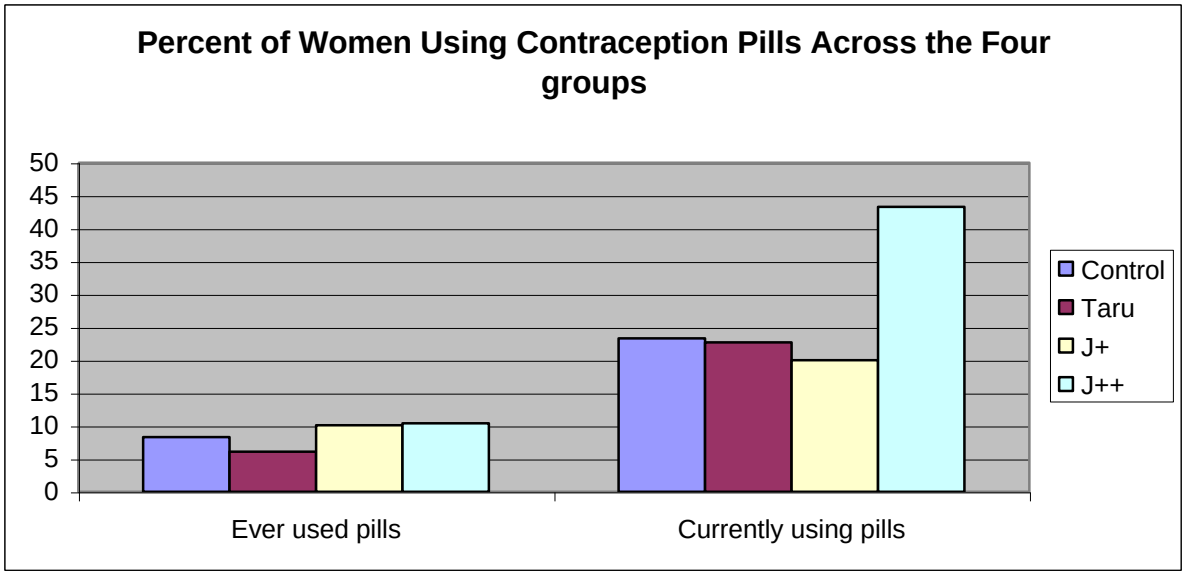
Men in all four groups who were aware of condoms also reported whether they had ever, or were currently using male pills or condoms. No respondent in the study had ever used or was currently using male pills except one participant in the T group who reported using it currently. See chart table below for percent of respondents who have previously used condoms, or currently use condoms.



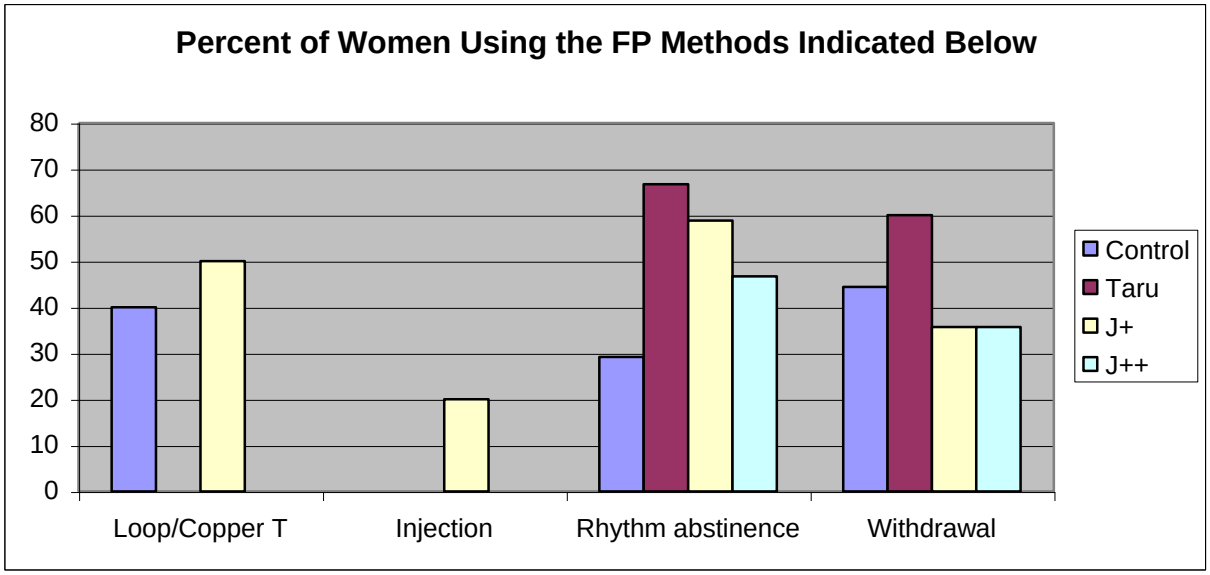
Men were asked whether they used Mithun condoms[4]. Only one out of six respondents in the control group (16.7%), 5.6% in the T group (n=10), 11.7% in the J+ group (n=21), and 15% in the J++ group (n=31) reported ever using Mithun condoms. Among these respondents, one participant in the control group, 60% of respondents in the T group (n=6), 50% in the J+ group (n=10) and 33.3% in the J++ group (n=11) indicated using it currently.

Women in all four groups were asked about the current and past use of various contraceptive methods[5]. The chart below presents a description of use of contraceptive pills among women.

[4] Only men who were aware of condoms as a family planning method responded to this question.
[5] Only women in all four groups who indicated awareness of various contraception methods, reported its past and current use



The chart below presents the percentage of women who currently use Copper T, injections, rhythm abstinence, and withdrawal methods of family planning across the four groups.



No women in the control group had ever used Apsara pills. In the *Taru*-only (T) group, 5.4% (n=11/203) had used it in the past, and among them, 33.3% (4/12) were also

using it currently. In the J+ group, 8.3% (n=17/204) of the respondents indicated using Apsara in the past. Among them, 12.5% (n=2/16) were also using it currently. In the J++ group, 6.9% of the respondents (n=16/233) reported having tried Apsara pills in the past, while 26.3% (n=5/19) indicated using it currently.

Intentions to Use Family Planning Methods in the Future

All responses in this section were elicited from only those respondents who had indicated awareness of the family planning method in question. Respondents who were aware of pregnancy-test dipsticks mentioned that they "may never" or "probably" will use the dipsticks in the future, F (3, 531) = 25.64, p=. 0001. The control group (M= 1.73, p=. 0001) was least likely to use test dipsticks in the future when compared to the T group (M= 2.30, p=. 0001), J+ group (M=2.24, p=. 0001), and the J++ group (M= 2.69, p=. 0001). The *Taru*-only group respondents were less likely to use dipsticks when compared to the J++ group respondents (p=. 005). Likewise, the J+ group participants were also less certain of using dipsticks in the future compared to the J++ group (p=. 0001).

Significant differences were found across groups with regard to plans concerning use of tubectomy, F (3, 1143)=190.16, p=. 0001. The control group respondents (M=1.57) were least likely to express intentions of using this method, in comparison to the T group (M= 2.49, p=. 0001), J+ (M= 3.18, p=. 0001) and the J++ group respondents (M= 3.30, p=. 0001). The T group members followed second, and were less likely than the J+ (p=. 0001) and the J++ group members (p=. 0001) to use tubectomy in the future. The J+ group was no more or less likely than the J++ group to opt for this method for future use.

With respect to intended use of vasectomy, participants had significantly different opinions, F (3, 1092) = 40.45, p=. 0001. Respondents in the control group (M=1.19) were less positive in their intentions to use this method, in comparison to the T group (M= 1.68, p=. 0001), J+ (M=1.67, p=. 0001) and the J++ group members (M=1.89, p=. 0001). The T group members were less likely to favor this method, when compared to the J++

group respondents (p=. 002). The J++ group members preferred this method more than the J+ group respondents (p=. 002).

Groups also differed significantly with regard to future plans to use female pills, F (3, 1058)=33.57, p=. 0001. The control group members (M=1.59) were significantly less likely to choose this method of family planning in comparison to the T group (M=2.15, p=. 0001), the J+ (M=2.23, p=. 0001) and the J++ groups (M=2.34, p=. 0001). Likewise, the T group respondents (M=1.91) were also less favorable of this method in comparison to the J++ group members (p=. 03). No significant differences between the J+ and the J++ group responses were observed.

There were no significant differences in the intentions of female respondents to use Apsara pills, across the four groups (Control group M=2.00, T group M=2.34, J+ group M=2.22, J++ group M=2.41), F (3, 517)=1.76, p=ns.

Men in the control group differed from other groups in their intentions to use male pills, F (3, 61)=3.78, p=. 02. Specifically, men in the control group (M=2.60) were more likely to use pills than their counter parts in the T group (M= 1.57, p =. 008) and the J++ group (M=2.00 p=. 005). All other comparisons between groups were not statistically significant[6]. Men also differed in their intent to use condoms, F (3, 1001)=45.75, p=. 0001. Male respondents in the control group (M=1.47) expressed least intentions to condoms in the future (p=. 0001). The J+ group respondents (M=2.07) were less likely to opt for condoms when compared to the J++ group (M=2.39). All other comparisons were statistically non significant[7]. When asked about plans to use Mithun condoms, men in the four groups gave significantly different responses, F (3,460)=6.11, p=. 0001. Specifically men in the T group (M=2.53) were more likely to use Mithun condoms in the future than respondents in the J+ group (M=2.19, p=. 001). Male respondents in the J+ group were less likely to prefer Mithun condoms than participants in the J++ group (M=2.59, p=.

[6] The J+ group mean for this item was 1.52.
[7] The *Taru* group mean for this item was 2.23

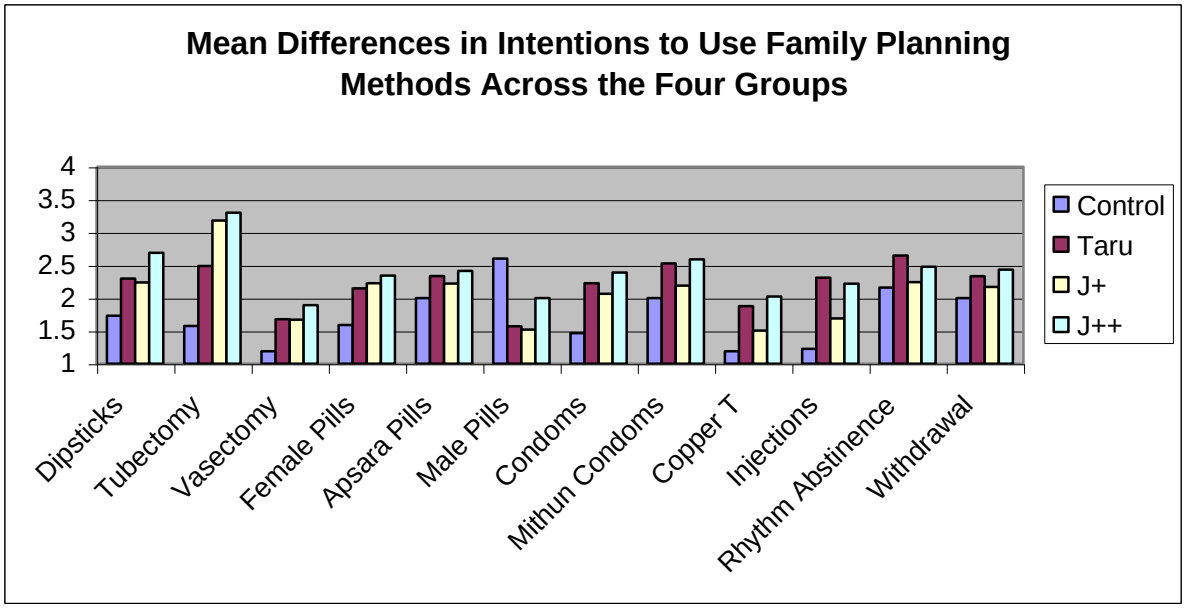
0001). The remaining comparisons between groups did not yield statistically significant differences[8].

Women in the study were least likely to plan to use Copper T compared to any other method of family planning, F (3, 525)=35.37, p=. 0001. The control group respondents (M=1.19) were less likely to favor copper T as a family planning method, in comparison to their counterparts in the T group (M=1.88, p=. 0001), the J+ (M=1.50, p=. 001) and the J++ group (M=2.02, p=. 0001). The *Taru*-only group was more likely to opt for this method in comparison to the J+ group members (p =. 001). Further, the J+ groups were less likely to opt for copper T in comparison to the J++ group (p=. 0001).

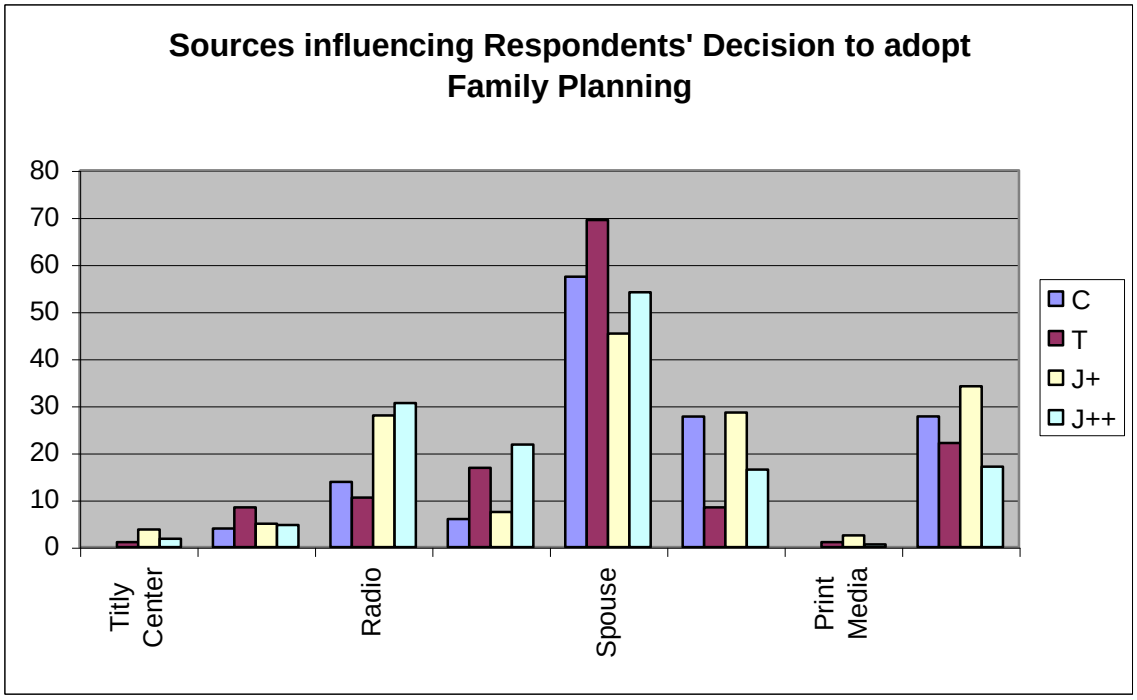
Women also differed in their preference for injections as a family planning method, F (3, 417)=47.11, p=. 0001. The control group women (M= 1.23) were least likely to use injections compared to their counterparts in the T group (M=2.31, p=. 0001) J+ (M=1.69, p =. 0001), and J++ groups (M=2.22, p.0001). Women in the T group were less likely to prefer this method in comparison to women in the J+ group (p=. 0001). The J++ group women were more likely to opt for this method when compared to female respondents in the J+ group (p=. 0001).

Women in the four groups did not vary in their intentions to use rhythm abstinence, F (3,319)= 2.36, p=ns, and withdrawal, F (3,127)=1.03, p=ns. The chart below presents mean differences across the groups in intentions to use various family planning methods in the future.

[8] The control group mean for this item was 2.00

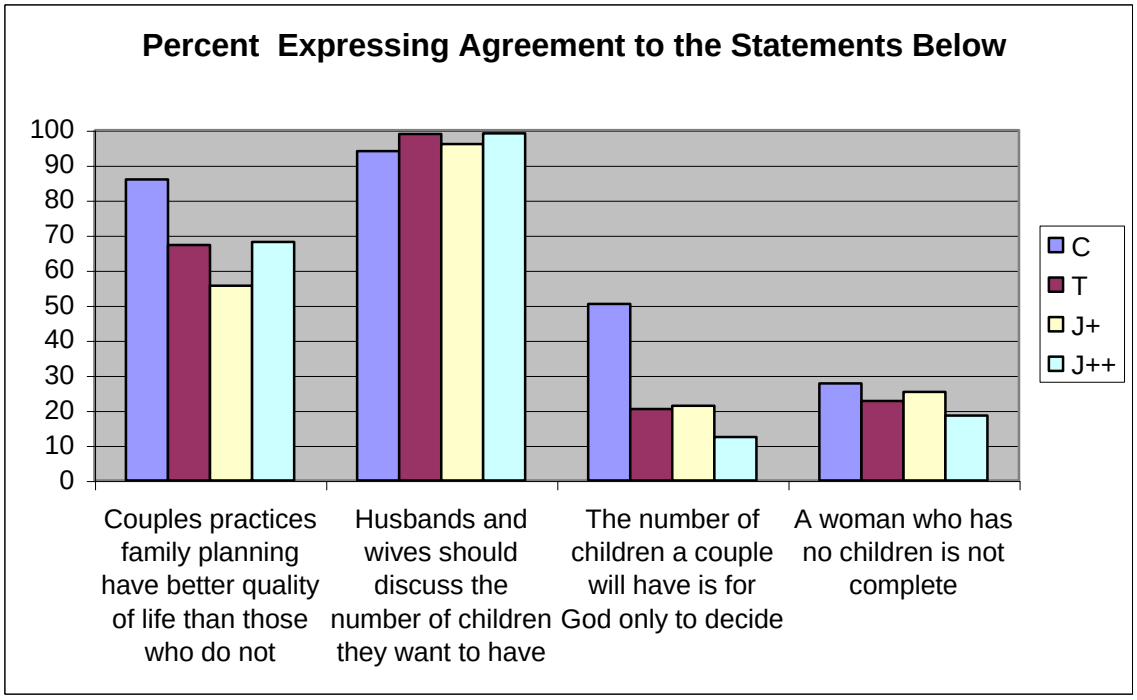


The chart below presents various sources of influence that participants who had adopted family planning cited as being most important in convincing them to adopt family planning methods.



Perceptions Regarding Family Planning

Participants in the study reported their general views regarding family planning. As indicated in the chart below, the majority of respondents in all four groups felt that husband and wives should discuss the number of children they wanted to have. Interestingly, a lower proportion of J++ group members held the opinion that a woman who had no children is not complete, or that the number of children a couple will have is for God only to decide.



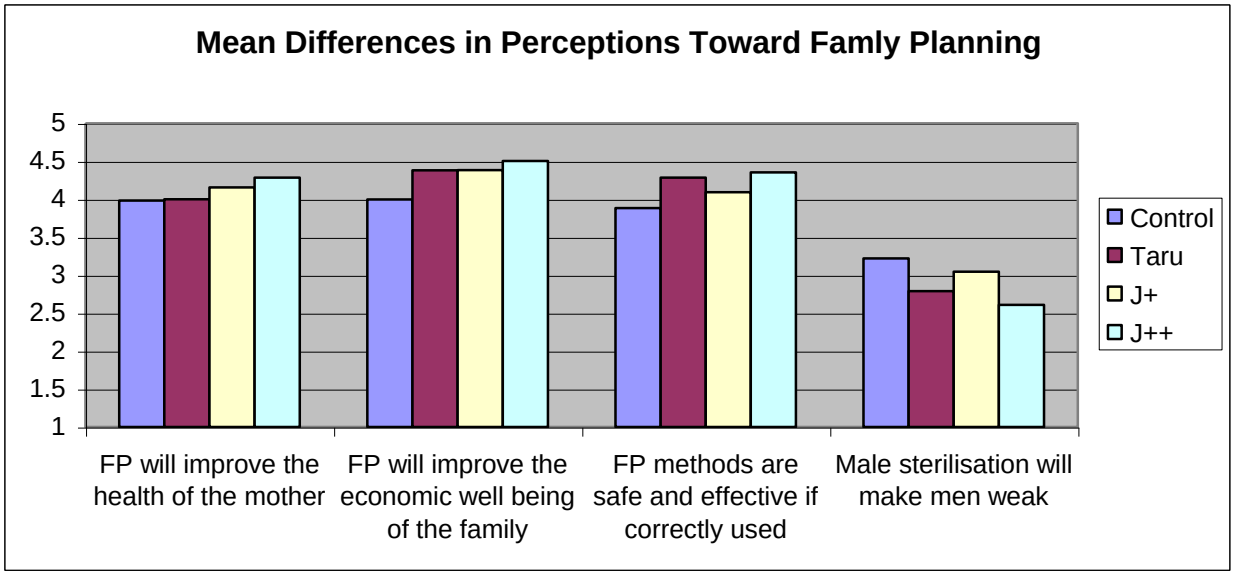
Analyses of potential differences in responses to several other statements on family planning revealed interesting results. Significant differences among the four groups were found in responses to the statement "family planning will improve the health of the mother," F (3, 1379)= 14.69, p=. 0001. The control group (M=3.98) was least likely to perceive maternal health benefits associated with family planning, in comparison to the T group (M=4.00), the J+ (M= 4.16) and the J++ groups (M= 4.28). The T group members were significantly more skeptical about health benefits associated with family planning, when compared to the J+ (p=. 003) and the J++ group respondents (p=. 0001). Similarly, the J+ group respondents also did not trust FP to yield health related benefits for the mother, in comparison to the J++ group members (p =. 01).

Groups thought differently about the economic benefits associated with family planning, F (3, 1384)=60.86 p=. 0001. The control group members (M= 4.00) were least likely to believe that family planning entailed economic benefits for the family as a whole, in comparison to the other three groups (p=. 0001). The T group members (M=

4.38) were less likely to believe that there were economic rewards associated with family planning in comparison to the J++ group (M= 4.50, p=. 002). The J+ group members (M=4.38) were also less likely to endorse this view when compared to the J++ group members (p=. 002).

Groups also differed significantly in their response to the statement "Modern family planning methods are safe and effective if used correctly," (F= (3, 1354) = 39.58, p=. 0001). Once again, the control group members (M= 3.88) were least likely to trust family planning methods in comparison to the rest of the groups (p=. 0001). The T group members (M= 4.28) were also significantly less likely to rely on the safety and effectiveness of modern family planning methods, in comparison to the J+ group members (M= 4.09, p=. 0001). Lastly, the J++ group members (M= 4.35) considered family planning methods to be more safe and effective than the J+ group respondents (p= .0001).

Differences in opinion on whether male sterilization would make men weak emerged across the four groups, F (3,1248)=13.39 p=. 0001. The control group members (M=3.22) were more likely to believe that male sterilization made men weak, in comparison to the T group (M= 2.79, p=. 0001) and the J++ group (M= 2.61, p=. 0001). The T group members were less likely to agree with this view in comparison to the J+ group (M= 3.05, p=. 02). The J+ group was more likely than the J++ group to believe men became weaker as a result of sterilization (p=. 0001). All other comparisons were not statistically significant. The chart below presents mean differences on general perceptions regarding family planning.



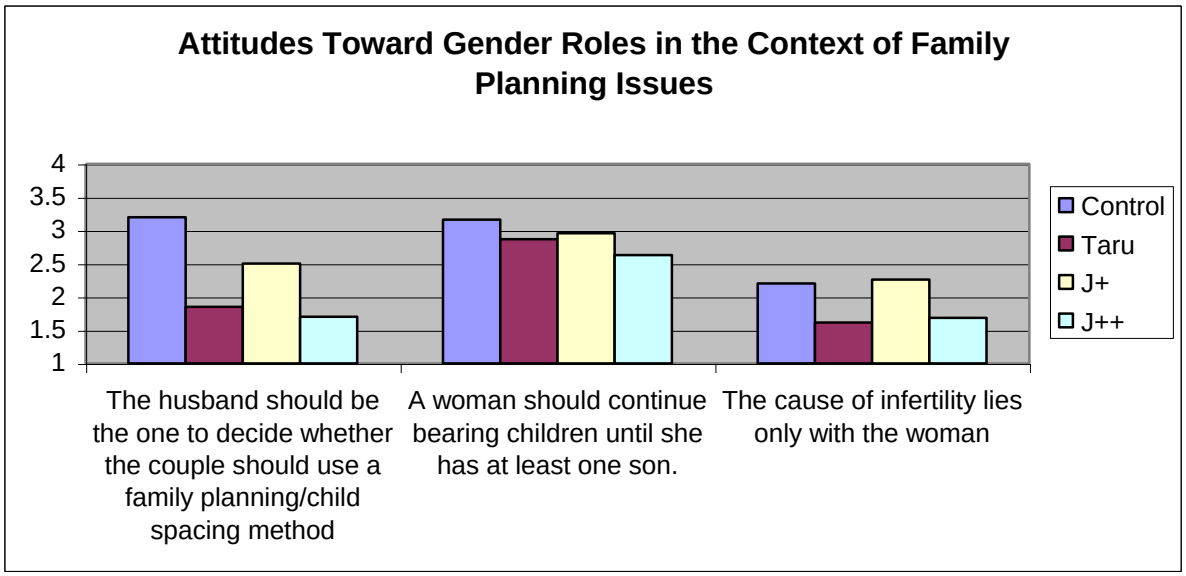
Significant differences were observed in reactions to the statement, "husbands should be the one to decide whether couples should use a family planning methods," F (3, 1392) = 154.82 p=. 0001. Specifically, the control group respondents (M= 3.20) were more likely to give power to the husband while making decisions about family planning, than respondents in the J+ group (M =2.50, p=. 0001), the J++ group (M=1.70, p=. 0001) and the T group (M=1.85, p=. 001). The T group respondents were significantly less likely to attribute responsibility to the male spouse alone in matters of family planning, compared to the J+ group members (p= .0001). The J+ group respondents were significantly more likely than the J++ group to hold patriarchal views in regard to family planning decision making (p=. 0001).

Respondents in the four groups differed significantly in their opinion of whether women should continue to bear children until she had at least one son, F (3, 1388) = 9.60, p=. 0001. The control group members (M= 3.16) were significantly more likely to expect women to continue bearing children until she produced at least one son, in comparison to the T group (M=2.87, p=. 0001), the J+ (M=2.96, p=. 0001), and the J++ group respondents (M=1.70, p=. 0001). The *Taru*-only (T) group respondents (p=. 02) and the

J+ group respondents (p=. 001) were also more likely to believe that it was a woman's duty to deliver at least one son, in comparison to the J++ group respondents.

Respondents thought differently about the cause of infertility and whether it was attributable only to women, F (3, 1387) = 77.45, p= .0001. The control group members (M=2.60) were significantly more likely to believe that the cause of infertility lay with the women, than respondents in the T group (M=1.62, p=. 0001) and the J++ group (M=1.68, p=. 0001). The T group members were less likely to attribute the cause of infertility to women when compared to the J+ group respondents (p=. 0001). The J+ group members (M=2.26) were significantly more likely to believe that women should be held accountable for infertility, than the J++ group participants (p=. 0001).

The chart below presents mean differences across the four groups on attitudes toward gender roles in the realm of family planning issues.



Women's Perceptions Regarding Family Planning

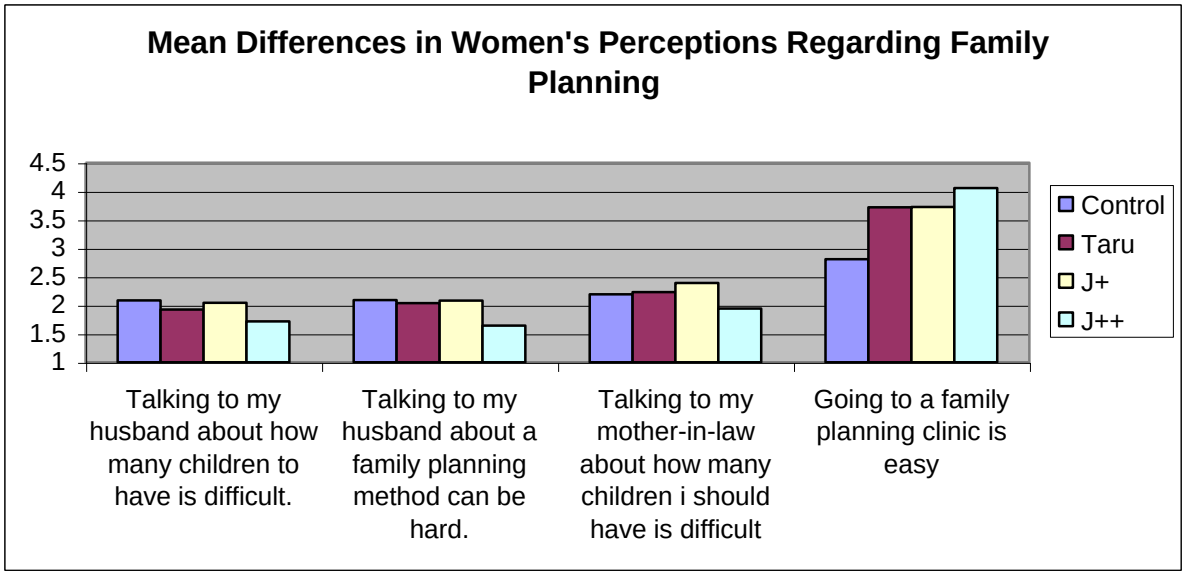
Women in all four groups experienced differing levels of difficulty in talking to their husbands about the number of children they might have, F (3, 744) = 6.01, p = .0001. The control group women (M=2.09) found it harder to talk with their husbands

than female respondents in the J+ group (M= 2.04, p=. 0001). The T group women (M =1.92) also experienced more difficulty in talking to their husbands regarding the number of children they should have, when compared to the J++ group women (M=1.72, p=. 03). Women in the J+ group found it less difficult to communicate with their spouse regarding number of children, in contrast to the J++ group women (p=. 001).

Women also experienced varying levels of discomfort in talking to their husbands regarding family planning methods, F, (3, 743) = 9.83, p=. 0001. Specifically, women in the control group (M=2.09) found it harder to communicate about family planning methods to their spouses, than women in the J++ group (M=1.64, p=. 0001). Women in the T group (M=2.04) and the J+ group (M=2.08) also experienced more difficulty in talking to their spouses, than women in the J++ group (p=. 0001).

Women also reported varying levels of difficulty in communicating with their mother in law about how many children they might have, F (3, 663) = 4.54, p=. 0001. The control group women (M=2.19) were more likely to experience difficulty in talking to their mother in law, than women in the J++ group (M=1.94, p=. 04). Similarly female respondents in the T group (M=2.23) reported more discomfort in interacting to their mother in law on this topic, than women in the J++ group (p=. 02). Likewise the J+ group women (M=2.39) found it less easy to communicate about number of children with their mother in law than the J++ group women (p=. 0001).

Women in some groups were able to access family planning centers with less difficulty than others, F (3, 731) = 56.47, p=. 0001. Women in the control group (M=2.81) found it more difficult to get to family planning clinics than women in the T group (M=3.72, p=. 0001), J+ group (M=3.72, p=. 0001), and the J++ group members (M=4.06, p=. 0001). Female respondents in the T group experienced more hardship than the J++ group members in getting to the family planning centers (p=. 001). Similarly, women in the J+ group also found it more difficult to get to the FP clinics than women in the J++ group (p=. 001). The chart below presents mean differences in women's responses to statements on family planning communication and access.



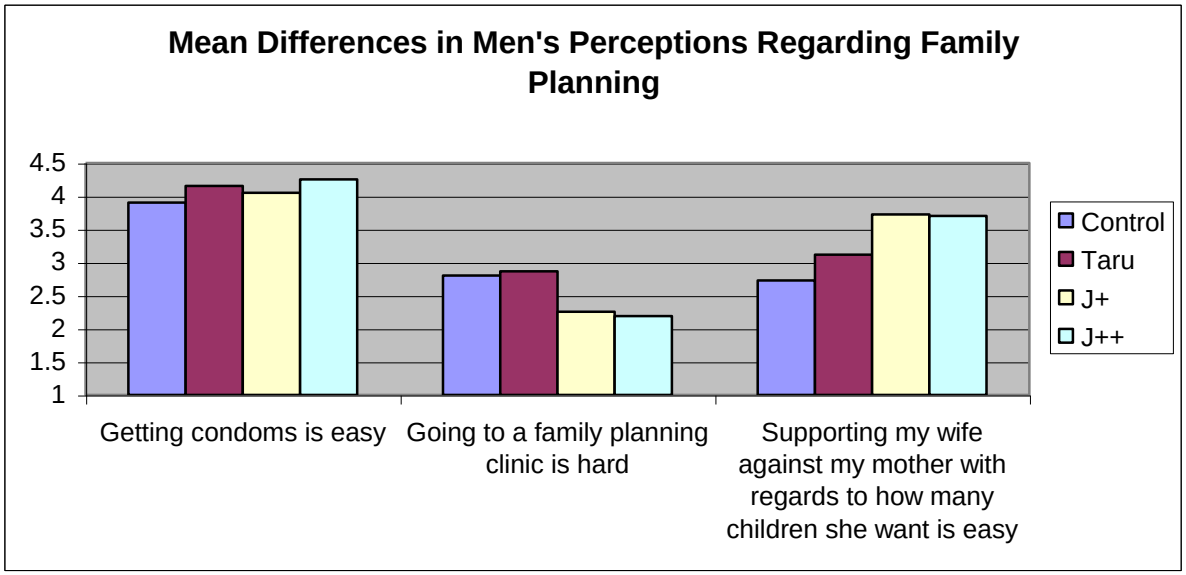
Men's Perceptions Regarding Family Planning

Men in certain groups found it easier to purchase condoms when compared to others, F (3, 611) = 7.07, p=. 0001. Men in the control group (M=3.90) were significantly less likely to find it easy to get condoms than men in the T group (M=4.16, p=. 001) and the J++ group (M=4.25, p=. 0001). Male respondents in the J+ group also found it more difficult to get condoms compared to their J++ group counterparts (p=. 009). All other between-group comparisons were not statistically significant.

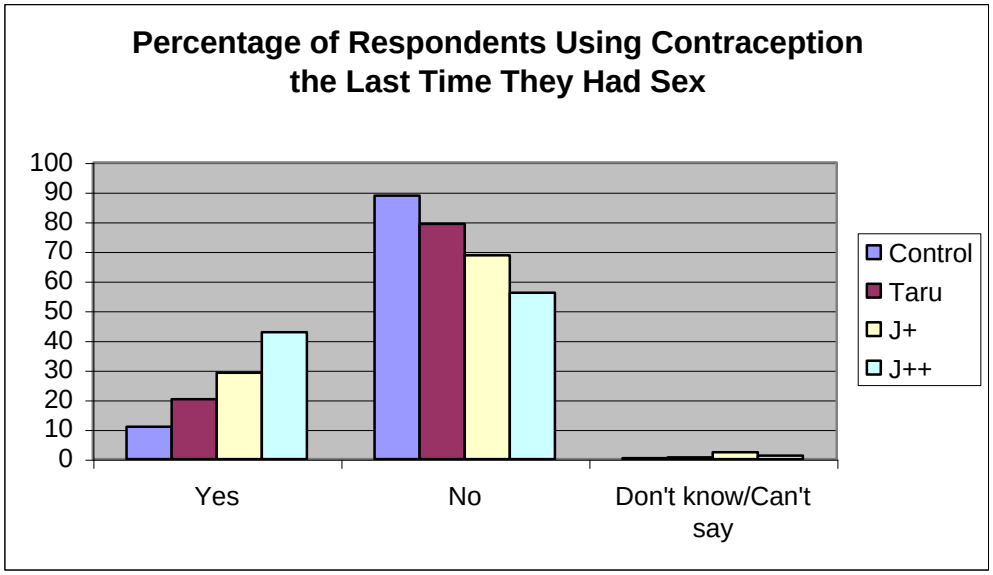
Men in all four groups also had significantly different responses to the statement, "Going to a family planning clinic is hard," F (3, 622) = 13.71, p=. 0001. Men in the control group (M=2.80) had more difficult in accessing FP clinics than men in the J+ (M= 2.25, p=. 0001) and J++ groups (M= 2.19, p=. 0001). Male respondents in the T group (M=2.86) also had more difficulty in accessing FP clinics than men in the J+ (p=. 0001) and J++ groups (p=. 0001). No significant differences between the J+ and the J++ groups were observed.

Men in all four groups differed in their opinion on whether it was easy to support their wife against their mother with regard to how many children she wanted, F (3, 621) =

33.38, p=. 0001. Specifically, male respondents in the control group (M=2.73) found it most troubling to support their wife against their mother compared to men in the T group (M= 3.12, p=. 0001), J+ (M=3.72, p=. 0001) and the J++ group (M=3.70, p=. 0001). The T group men were also more likely to find it difficult to do so, when compared to the J+ (p=. 0001) and J++ group men (p=. 0001). No significant differences between the J+ and J++ groups were observed. The chart below presents mean differences in perceptions of men on family planning access and communication.



Respondents in the study also indicated whether they used contraception the last time they had sex. The chart below indicates contraception use among respondents in the four groups. Chi-square analysis suggests statistically significant differences between all groups (between control group and *Taru*, χ^2, (2, 701) = 11.94, p=. 003; between T and J+, χ^2, (2, 703) = 11.93, p=. 003; between J+ and J++, χ^2, (2, 697) = 14.84, p=. 001).



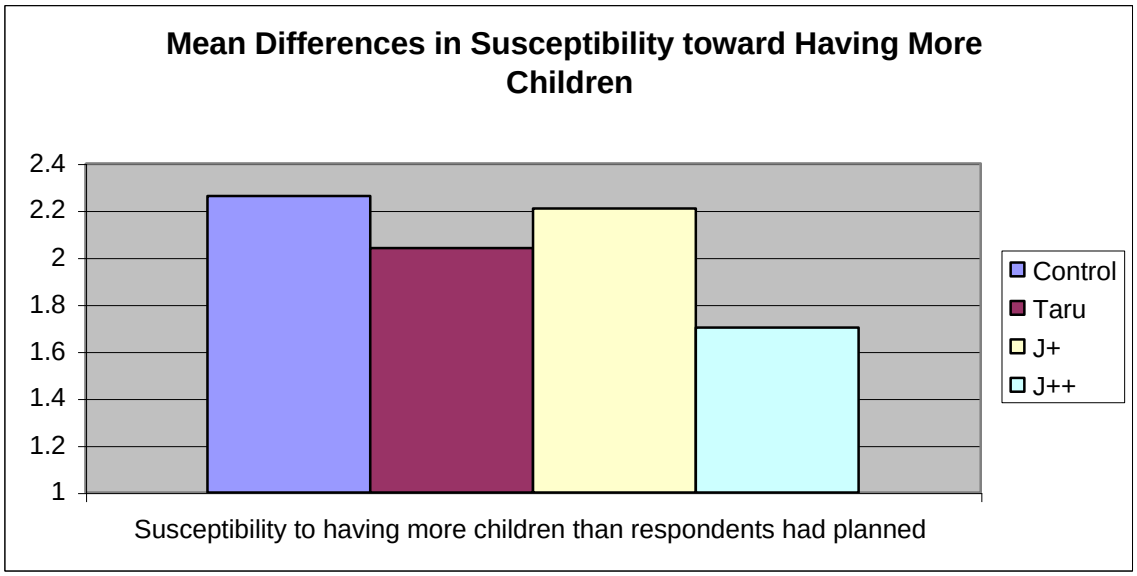
Key Finding: There is a clear dose-response effect of intervention type on respondents' using contraception the last time they had sex, such that the more intensive the intervention, the more likely respondents used contraception at last sex.

EPPM (Extended Parallel Process Model) Variables

The Extended Parallel Process Model explains how to manage fear to produce desired campaign effects. Briefly, the theory suggests that perceptions of threat (composed of perceived susceptibility and severity) and perceptions of efficacy (composed of perceived self-efficacy and response efficacy) interact in predictable manners to produce either no response to a campaign, adaptive responses to a campaign (i.e., behavior change), or maladaptive responses to a campaign (e.g., fear control responses).

Respondents' perception of their susceptibility and attitude toward having more children than they wanted was assessed in the summative phase. Although in general, most respondents were negative or remained neutral in their perceptions about their own susceptibility toward having more children than they really wanted, some groups differed significantly form each other, $F(3,1366) = 21.65$, $p=.0001$. Specifically, the control

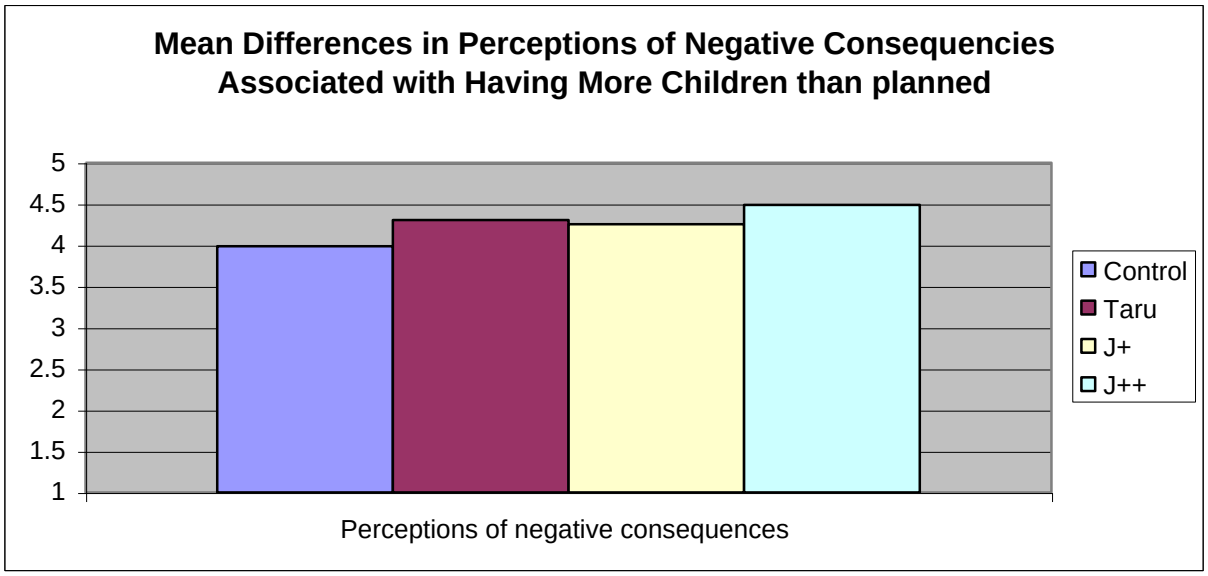
group participants (M =2.26) were most likely to anticipate having more children than they wanted, in comparison to the T group (M=2.04, p=. 004), and the J++ group participants (M=1.70, p=. 0001). The control group and J+ group responses (M=2.21) were not significantly different from each other. The T roup respondents were less likely to feel that they would have more children than they had hoped for, when compared to the J+ group members (p=. 03). The T roup respondents were however more likely to feel that they were likely to have more kids than they planned for, when compared to the J++ group members (p=. 0001). Participants in the J+ group were also more likely to think that they would probably have more children than they really wanted, when compared to their J++ group counterparts (p=. 0001).



The three-item scale measuring people's perceptions of consequences of having more children that they really wanted was administered[9]. The reliability of the scale as assessed by Cronbach's alpha was .76. Significant differences between the groups on this measure were found, F (3, 1395)= 64.59, p=. 0001. The control group (M=3.99)

[9] The items in the scale were "Having more children than I really want leads to problems", "Having more children than I want is harmful to my future", "Having more children than I want makes we feel worried"

perceived fewer problems associated with having more kids, in comparison to the *Taru*-only (T) froup (M= 4.30 p= .0001), the J+ (M=4.25, p=. 0001), and the J++ group respondents (M=4.49, p=. 0001). The T group did not differ significantly from the J+ group in their perceptions of problems related to having more children. However the T group members were less likely to perceive negative consequences associated with having more children, when compared to the J++ group (p=. 0001). The J+ group was also less likely to perceive negative consequences related to having more children, when compared to the J++ group (p=. 0001). The chart below presents mean differences in participants' responses to this scale.



Respondents were asked about measures they took to avoid unwanted pregnancies. Significant group differences in whether respondents thought about getting pregnant while having sex were found, F (3, 1172) = 24.90, p=. 0001. The control group respondents (M= 3.24) were more likely to forget about getting pregnant while having sex, in comparison to the J+ group members (M=2.50, p=. 0001). The T group respondents (M=3.20) were also more likely to avoid thinking of pregnancy while having sex, when compared to the J+ group respondents (p=. 0001). The J++ group members

(M=3.10) were also less conscious about the implications of having sex, when compared to the J+ group members (p=. 0001). All other between-group comparisons were not statistically significant.

Responses of men in the four groups to the statement, "I am more likely to forget to protect myself when having sex after drinking alcohol," varied between "disagree" and "remain neutral" (Average M = 2.94, F (3, 350)= 57.46, p=. 0001). The control group respondents (M= 3.15) were more likely to fail to remember to take precautions after consuming alcohol, in comparison to the J+ group respondents (M=2.10, p=. 0001). However, they were more likely to be conscious of protecting themselves in comparison to the T group members (M= 4.08, p=. 0001). The T group members were most likely to overlook protection in comparison to the Control (p=. 0001), J+ (p=. 0001) and the J++ group members (M= 3.21, p=. 0001). The J+ group members were less likely to forget using contraception after drinking alcohol when compared to the J++ group respondents (p=. 0001)

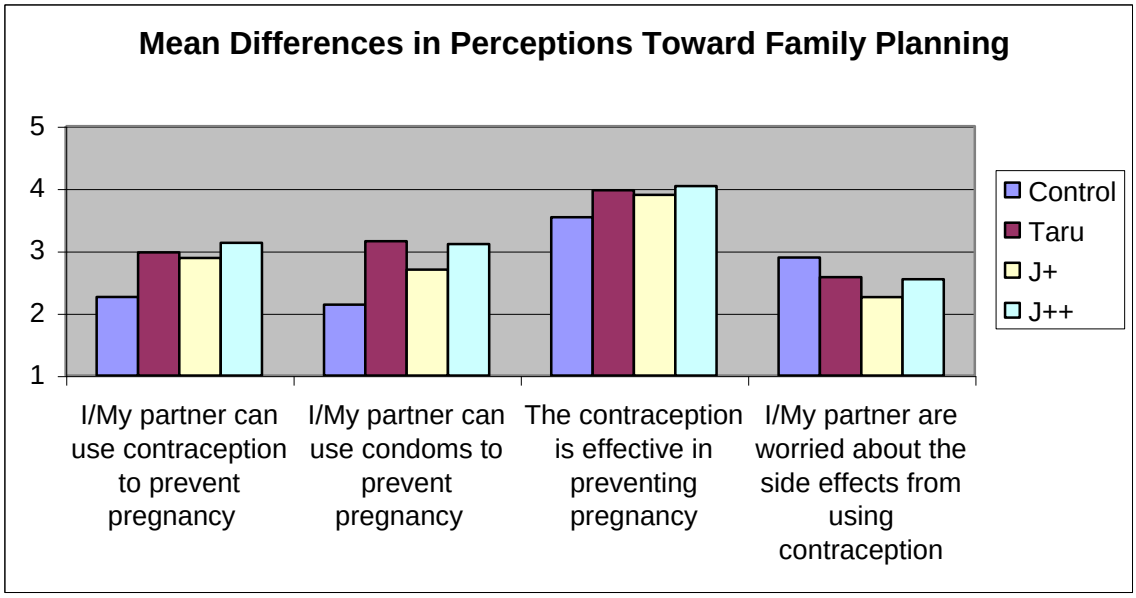
In response to the statement, "I/My partner can use contraception to prevent pregnancy," significant differences were observed, F (3, 1074) = 23.32, p=. 0001. The control group respondents (M=2.26) were least likely to feel competent to use contraception to prevent pregnancy, when compared to the T group (M= 2.98, p=. 0001), the J+ group (M= 2.89, p=. 0001), and the J++ group members (M= 3.13, p=. 0001). The T group responses did not differ significantly from the J+ or the J++ group replies. The J++ group members were marginally more likely to indicate that they could use contraception to prevent pregnancy, in comparison to the J+ group respondents (p=. 05).

Respondents also differed on whether they or their partners were able to use condoms to prevent pregnancy, F (3,1015) = 35.13, p=. 0001. The control group participants (M= 2.14) were less likely to feel competent to use condoms in order to prevent pregnancy, in contrast to the T group respondents (M=3.16, p = .0001), the J+ (M=2.70, p=. 0001), and the J++ group respondents (M=3.11, p=. 0001). The T group members expressed more competence in using condoms when compared to the J+ group

participants (p=. 0001). The J+ group respondents were less likely to believe that they or their partners could use condoms to prevent pregnancy in comparison to the J++ group members (p=. 001).

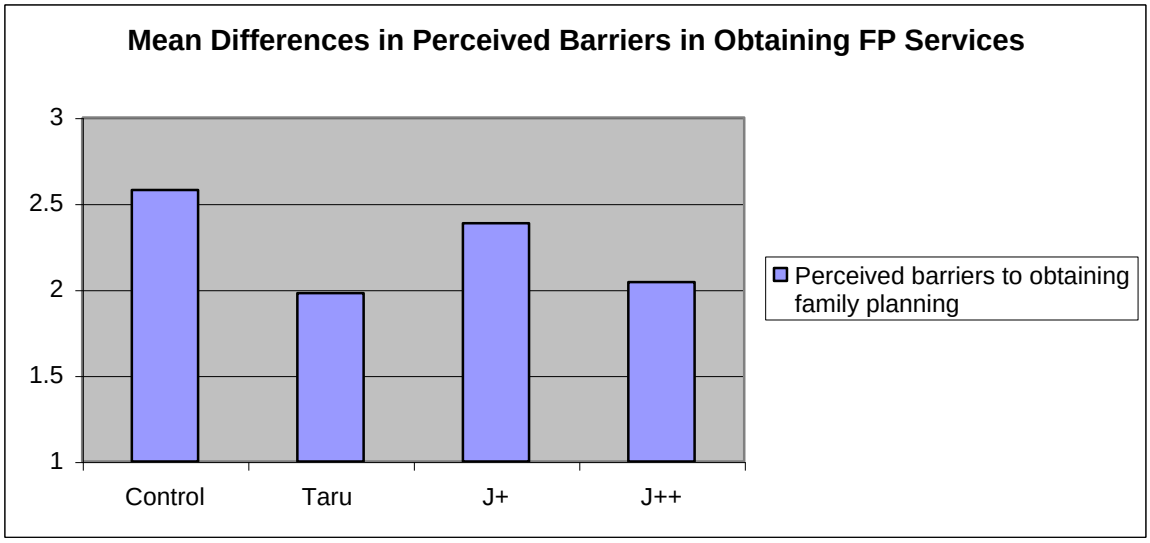
The four groups differed significantly in their perceptions on the effectiveness of contraception to prevent pregnancy (F (3, 1192)=26.08 p=. 0001. The control group (M= 3. 54) respondents were least likely to agree with the statement "contraception is effective in preventing pregnancy" in comparison to all three groups (p=. 0001). The T group responses (M=3.97) did not differ from the J+ (M= 3.90) or the J++ group replies (M=4.04). Participants in the J++ group were more likely to agree with the statement in comparison to those in the J+ group (p=. 02).

Groups also thought differently about side effects related to contraception use, F (3, 1101)=12.69, p=. 0001. The control group (M= 2.89) was most likely to worry about the side effects from using contraception in comparison to the *Taru*-only (T) group (M=2.58, p=. 003), the J+ group (M= 2.26, p=. 0001), and the J++ (M=2.54, p=. 001). The T group members were as anxious about the side effects of contraception use, as the J++ group members, but were significantly more likely to worry about the side effects, in comparison to the J+ group members (p=. 0001). The J++ members worried more about side effects of contraception use, in comparison to the J+ group respondents (p=. 002). The chart below presents mean differences in responses perceptions toward family planning.



The three-item scale assessing respondents' perceptions of barriers in using family planning was also administered in the summative phase[10]. The reliability of the scale as assessed by Cronbach's alpha was .81. The analysis of variance revealed significant differences between groups, F (3, 1304) =33.58 p = .0001. The control group members (M=2.58) were significantly more likely to perceive obstacles preventing them from using family planning, compared to the T group (M=1.98, p=. 001), the J+ group (M= 2.39,p=. 005) and the J++ group participants (M=, 2.04 p=. 0001). The T group members were significantly less likely to perceive hurdles preventing them from using family planning, when compared to the J+ group (p=. 0001). The J+ group members were more likely to perceive barriers when compared to the J++ group members (p=. 0001).

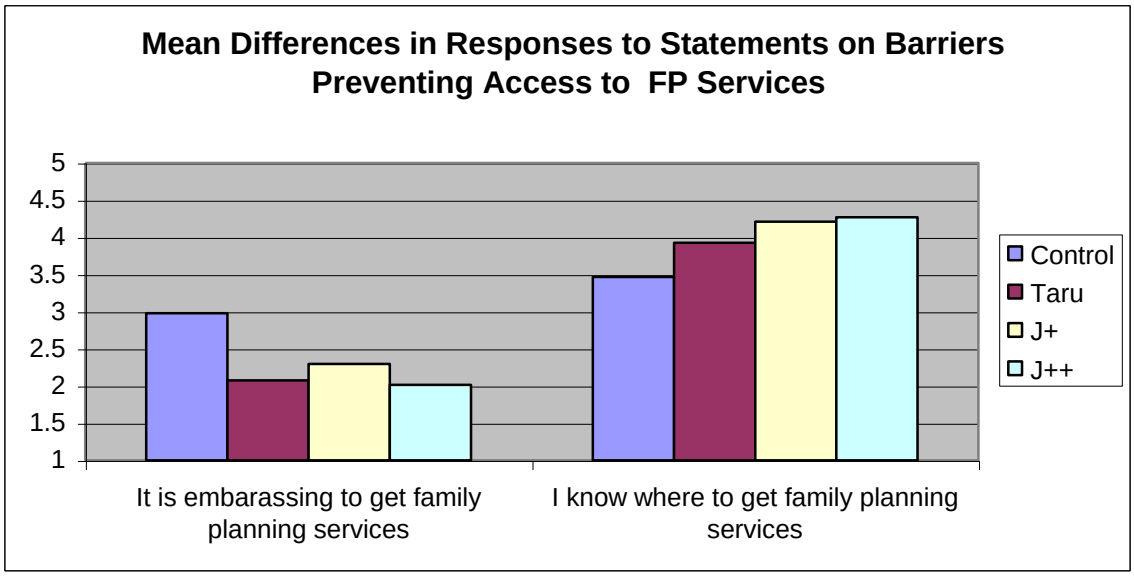
[10] The items included in the scale were "Family planning methods costs too much," "Family planning methods are inconvenient," and "Family planning methods are hard to get".



When asked whether respondents felt embarrassed in seeking family planning services, overall, participants in all four groups disagreed that this was the case or remained neutral. However respondents in some groups felt more or less inhibited than the others, F (3, 1375) = 59.45, p=. 0001. The control group respondents (M= 2.98) were most likely to feel self conscious in getting family planning services in comparison to the T group (M= 2.07, p=. 0001), J+ group (M= 2.30, p=. 0001), and J++ group respondents (M= 2.01, p=. 0001). The T group respondents were less likely to be embarrassed compared to the J++ group members (p=. 0006). The J+ group members also felt more uncomfortable to obtain family planning services, when compared to their J++ counterparts (p=. 001).

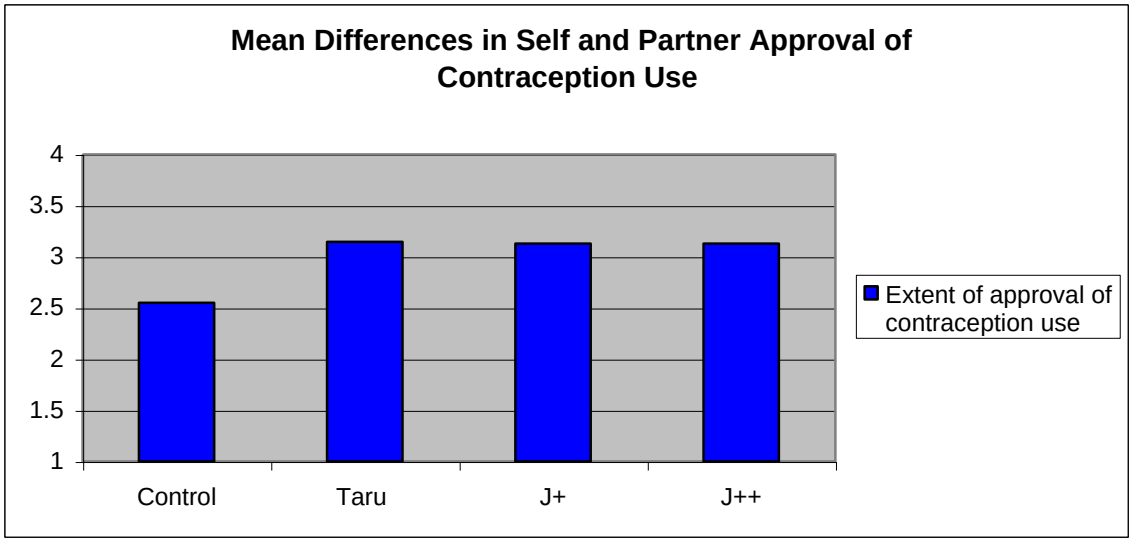
Respondents in all four groups exhibited differential levels of knowledge about where they might access family planning services, F (3, 1361)=60.99, p=. 0001. The control group respondents (M= 3.47) were least likely to know were to get family planning services, in comparison to the T group (M= 3.93, p= .0001), J+ group (M=4.21, p=. 0001), and J++ group respondents (M= 4.27, p=. 0001). The T group respondents

were less likely to know where to go for family planning services in comparison to the J+ group (p=. 0001) and the J++ group respondents (p=. 0001). The J++ group respondents did not differ significantly from the J+ group members in their awareness of places that offered family planning services. The chart below presents mean differences in responses to two statements regarding barriers preventing access to family planning services.



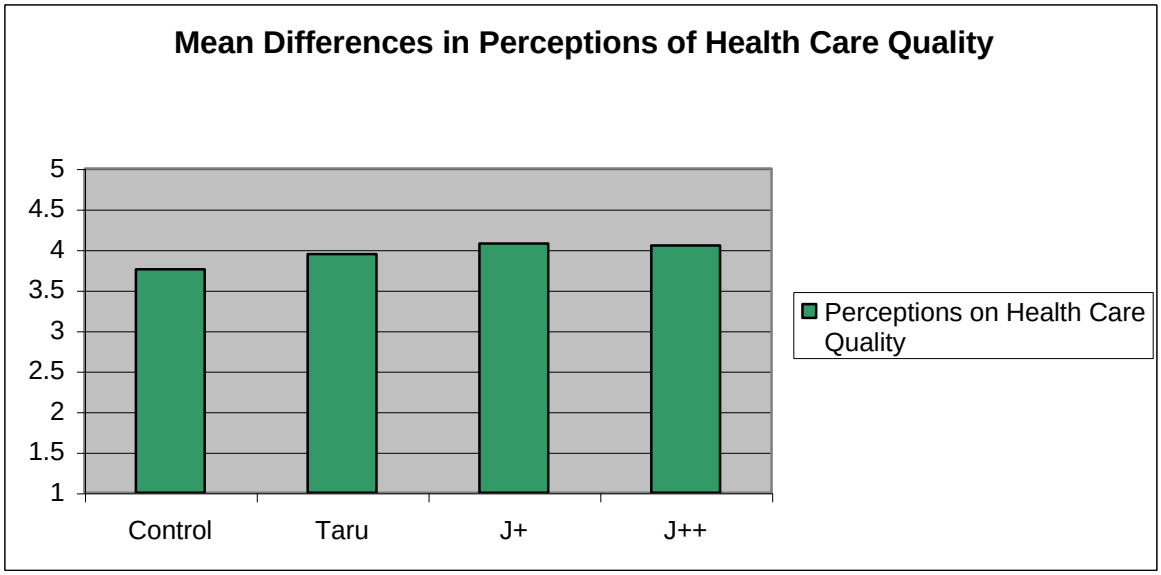
The scale measuring extent of self and partner approval toward using contraception had a reliability of .85 [11]. Significant differences between groups was revealed, F (3, 1229) = 18.52, p=. 0001. The control group respondents (M=2.55) were least likely to approve of contraception use, in comparison to all three groups (p=. 0001). The T group participants (M=3.14) were as positive about contraception use as the J+ (M=3.13) and the J++ group members (M=3.08). Likewise the J++ group members (M=3.21) were also as favorable toward contraceptive use as the J+ group respondents. The table below presents group differences in approval of contraception use.

[11] Items included in this scale were "I/My partner approve (would approve) the idea of using pills," and " I/My partner approve (would approve) the idea of using condoms".

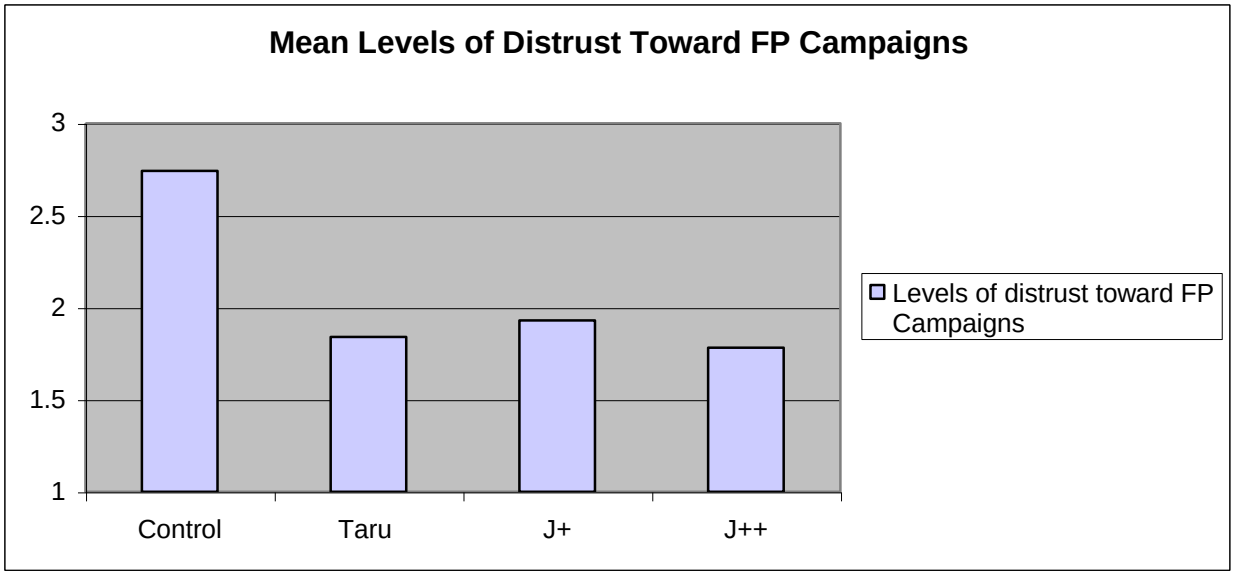


Respondents were also asked to rate the quality of health care and treatment that they received. The reliability of the scale measuring perceived quality of family planning service and the treatment by health workers was .74[12]. In contrast to the interim phase, groups differed in their perception of health care and treatment, F (3, 1271)=12.61, p=. 0001. The control group participants (M= 3.76) were least likely to have positive impressions about the quality of health care and treatment they received, compared to the T group (M=3.94, p=. 001), the J+ group (M=4.07, p=. 0001), and the J++ group participants (M=4.05,p=. 0001). The T group members gave lower ratings to the quality of health care they received, in comparison to the J+ group participants (p=. 02). The T group respondents did not differ from the J++ group members in their evaluations of health care quality. Also, the J+ and the J++ group responses fell within sampling error of each other (See chart below).

[12] Items included in this scale were "I/My partner approve (would approve) the idea of using pills," and " I/My partner approve (would approve) the idea of using condoms".



Lastly, participants also differed in their reactions to campaigns promoting family planning methods, F (3, 1344) = 101.17, p=. 0001. The control group members (M=2.74) were more distrusting of family planning campaigns, in comparison to the T group members (M=1.84, p=. 0001). Perceptions of T group respondents on campaigns promoting family planning methods were similar to those of the J+ group members (M=1.93). The J+ group members had less faith in family planning campaigns, in comparison to the J++ group members (M=1.78, p=. 03).



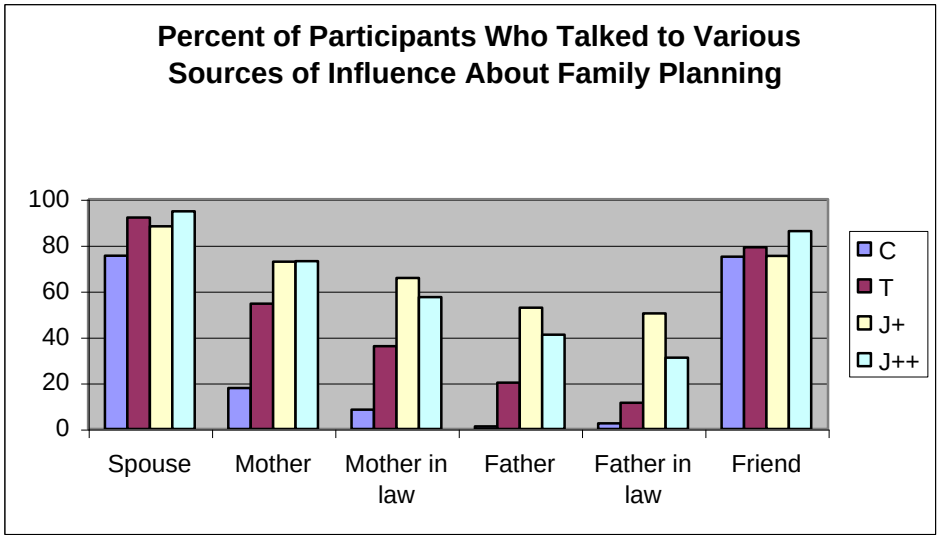
Key Findings: Overall, the intervention groups tended to perform better on key theoretical perceptions than the control group. The intervention groups had stronger perceived response efficacy (i.e., believed contraception effective in preventing pregnancy) when compared to the control group. Similarly, the intervention groups worried far less about side effects from contraceptives when compared to the control group. Approval of contraception was much stronger among the intervention groups as compared to the control group. There was a clear dose response relationship between knowledge about where to get family planning services and intensity of intervention, such that the more intense the intervention, the greater the knowledge of where to get family planning services.

In many cases, the T group performed as well or better than the other intervention groups. For example, the T group members had greater perceived self-efficacy to use condoms as compared to all other groups. Likewise, the T group perceived the least barriers to using family planning as compared to all other groups.

In terms of reactions to the intervention, there was very low distrust or reactance to any of the interventions when compared to the control group.

Social Norms

Overall, participants in all four groups indicated that they had communicated with their spouses, friends, and mother about family planning issues. A vast majority of the J++ group respondents (94.7%, n=324) had talked with their spouses followed by the T group (92%, n= 321), the J+ (88.2%, n=305) and the control group members (75.4%, n=258). The majority of J++ group respondents (86.1%, n=298), and over three fourth of the T group (79.1%, n=277), J+ (75.3%, n= 262), and the control group respondents (75%, n= 261) had also spoken to their friends about family planning. Less than three quarters of the J++ group sample (73%, n=219), an almost equal proportion of the J+ group (72.8%, n=227), more than half of the T group (54.5%, n=172) and less than one fifth of the control group sample (17.8%, n=51) had talked to their mother about family planning issues. The chart below indicates the percent of participants in all four groups who had talked to family members and friends about family planning.



Key Finding: Intervention respondents were more likely to talk with elder family members, like a mother or mother-in-law, about family planning as compared to the control group respondents.

Importance Attributed to Relatives and Friends' Opinions

The majority of respondents (91.3% n=312) in the control group indicated that their spouse's opinion regarding family planning was very important to them. Lik wise, 85.1% (n=297) of respondents in the T group, 85.2% (n= 295) in the J+ group, and a comparatively higher proportion of respondents in the J++ group 92.4% (n=316) expressed a similar opinion. More than half of the control group sample (51.5% n=179) also stated that the opinions of friends on matters concerning family planning, was important to them. In the T group, less than half the sample (46.9% n=164) regarded their friend's opinion as crucial. In contrast, more than two thirds of the respondents in the J+ group (68.4%, n=238) and the J++ group (67.6%, n=234) felt that their friends' views mattered to them. Further, Two thirds of the control group sample (66%, n=189) indicated that their mother's opinion was very salient to them. Fewer than half the respondents in the T group (45.2%, n=143), more than three fourth of the J+ group sample (77.9% n=243), and over two thirds of the J++ group sample (69.6%, n=209) also valued their mother's opinion on this matter.

In addition, 62.5% (n=164) of respondents in the control group, 22.6% (n=64) in the T group, 66.3% (n=200) in the J+ group and 47.8% (n= 148) in the J++ group felt that their mother in law's views on family planning was important to them. Fewer than two thirds of the control group sample (62.8%, n=167), one fifth in the T group (22.4%, n= 60), and less than three fourth in the J+ group (72.8%, n=211) and less than half the J++ group sample (46.4%, n = 137) felt that their father's opinion on family planning was valuable to them. Lastly, almost two thirds of the control group sample (63.6%, n=161), one in ten in the T group (10.9%, n=26), two thirds in the J+ sample (61.9%, n= 179) and more than one thirds in the J++ group (35.7%, n=98) indicated that their father in law's position on this matter was important to them.

Approval of Friends and Family

Only participants who had talked with their relatives and friends about family planning responded to this section of the study. Significant differences between groups

were found in respondents' perceptions of approval that they received from their spouses regarding their use of family planning, F (3, 1204)= 24.92, p=. 0001[13]. The control group respondents (M=4.03) received significantly stronger approval from their spouses, than participants in the T group (M=3.64, p=. 0001). The control group participants however, received lower levels of support from their spouses in contrast to the J+ (M= 4.28, p=. 01) and the J++ group respondents (M= 4.35, p=. 001). The T group respondents were also less likely get approval from their spouses in comparison to the J+ (p=. 0001) and the J++ group respondents (p=. 0001). Spouses in the J+ group the J++ group did not differ significantly in the extent to which they approved of family planning.

Overall, mothers of respondents across the four groups were less approving of family planning than respondents' spouses. There were however significant differences observed across groups, F (3, 665)=31.84, p=. 0001. Mothers of respondents in the control group (M=3.90) were more approving of family planning in comparison to their T group counterparts (M=3.24, p=. 0001), but were slightly less positive, in comparison to mothers of respondents in the J+ group (M=4.21, p=. 05). Mothers of respondents in the T group were also less affirming of family planning, in comparison to their J+ (p=. 0001) or J++ group counterparts (M= 3.89, p=. 0001). Further, mothers of respondents in the J+ group were significantly more approving of family planning than mothers of respondents in the J++ group (p=. 01).

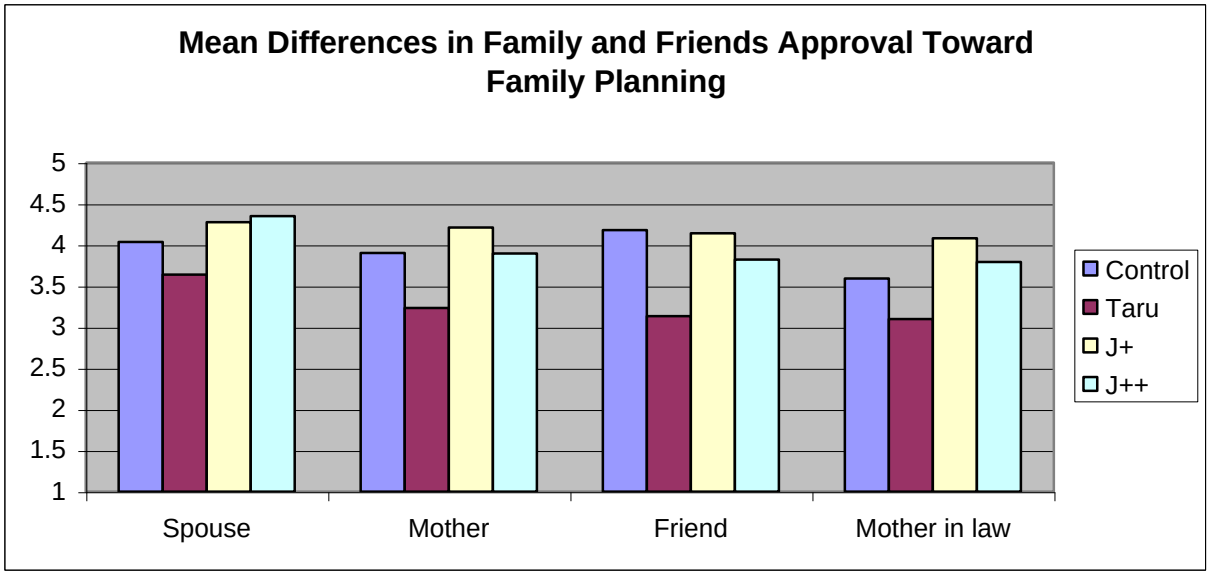
On the whole, friends of respondents were as approving of family planning as the mothers of respondents, although they were less positive about the use of family planning in comparison to spouses. Significant differences were also observed in respondents' reports of the support they received from their friends, F (3, 1094) = 63.76, p=. 0001. Friends of respondents in the control group (M=4.18) were more approving of family planning than those in the T group (M=3.13, p=. 0001) and the J+ groups (M=4.14, p=. 0001). The T group respondents' (M=3.75) friends felt were less positive toward family planning, in comparison to the J+ (p=. 0001) and the J++ group members (M=3.82, p=.

[13] Responses to items in this section ranged from Strongly disapproves (1) to Strongly approves (5)

0001). Friends of the J+ group respondents were more positive toward family planning issues than friends of the J++ group members (p=. 0001). All other between-group comparisons were not statistically significant.

In general, mothers in law were less approving of family planning than mothers of respondents. However, mothers in law also differed across groups in terms of the extent of approval they gave toward family planning, F (3, 495)=22.06, p=. 0001. Respondents in the control group (M=3.59) were more likely to receive approval from their mother in law in comparison to the T group (M=3.10, p=. 04), but were less likely to receive support when compared to the J+ group respondents (M=4.08, p=. 03). T group respondents were less likely to get positive responses from their mother in law, in comparison to the J+ (p=. 0001) and the J++ groups (M= 3.79, p=. 0001). Participants in the J+ group indicated significantly more support from their mother in law, when compared to the J++ group respondents (p=. 005).

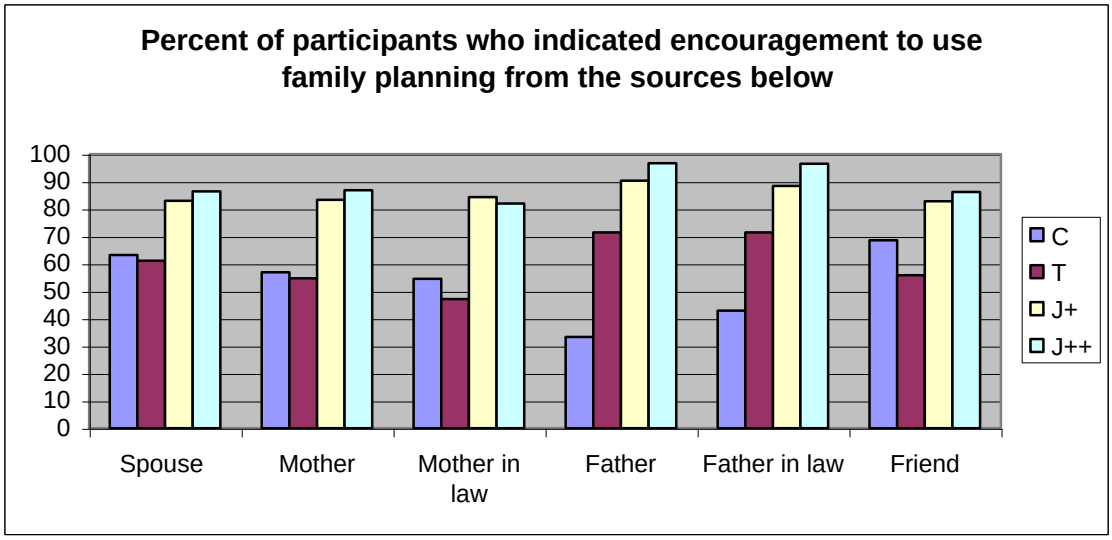
The chart below presents mean differences in approval of select significant others toward family planning across the four groups.



Encouragement Provided by Friends and Family

Responses to this section were elicited from only those participants who had talked with their relatives and friends about family planning issues. Respondents who had talked with their family and friends also indicated the extent to which they were encouraged by them to use family planning methods. Close to two thirds of the respondents in the control group (63.2%, n=163) and the T group (61.1%, n=196) indicated that their spouses encouraged them to use family planning. In contrast, majority of the J+ (83%, n=253), and the J++ (86.4%, n=280) respondents indicated that their spouses had been encouraging. Likewise, more than two thirds of the respondents in the control group (68.6%, n=179), and more than half the T group sample (55.8%, n=153) reported that their friends persuaded them to use family planning methods. In contrast, a vast majority of the J+ group members (82.8%, n=217) and J++ group respondents (86.2%, n=257) mentioned that they their friends had been very supportive.

A similar pattern is observed in participants' perceptions about their mother's encouragement regarding family planning use. While more than half of the control group (56.9%, n=29) and the T group sample (54.7%, n=94) felt that their mother was encouraging, majority of respondents in the J+ (83.3%, n=189) and the J++ group (73%, 219) endorsed this view. With respect to the opinion of respondents regarding their mother in law's position on family planning, more than half the sample in the control group (54.5%, n=12), and less than that proportion in the T group sample (47.1%, n=48) felt that their mother in law supported them. In contrast, majority of the J+ group (84.3%, n=166) and the J++ group respondents (82%, 146) indicated a similar opinion about their mother in law. The chart below presents participants' perceptions of encouragement they received from family and friends with respect to the use of family planning.



Key Finding: The more intensive interventions with on-the-ground activities seemed to result in higher degrees of encouragement from family members to control family size.

Individual and Collective Empowerment Outcomes

Self-Esteem

Participants in all four groups responded to five statements designed to assess their levels of self worth. Groups differed significantly in the extent to which participants felt satisfied with themselves, (F 3, 1394) = 13.25, p=. 0001). The control group participants (M = 4.02) were more satisfied with themselves on the whole, compared to the J+ group respondents (M=3.63, p=. 0001), although their levels of self satisfaction were not significantly different from the T group (M=3.94) or the J++ group members (M= 3.95). The T group members were significantly more content with themselves in comparison to the J+ group members (p=. 0001), while J+ respondents were significantly less likely to feel fulfilled, in comparison to the J++ group members (p=. 0001).

Also, responses to the statement "I like the way I look" elicited significantly different responses from the four groups, F (3,1394) = 17.18 p=. 0001. The control group members (M =3.92) were less likely to agree with the statement when compared to the T group (M= 4.21, p=. 0001) and the J++ group members (M= 4.12, p=. 001). The T group respondents did not differ significantly from the J++ group respondents, but were more likely to agree with the statement when compared to the J+ group members (M= 3.85, p= .0001). The J+ group members were significantly less fond of their looks in comparison to the J++ group respondents (p=. 0001).

Although respondents did not differ significantly across the four groups in their response to the statement "I feel that I have a number of good qualities" at the interim phase, significant differences between groups were observed in the summative phase, F (3, 1394)=9.88, p=. 0001. The control group (M=3.87) were significantly more likely to feel that they possessed a number of good traits, in comparison to J+ (M= 3.55 p=. 0001), and the J ++ group respondents (M= 3.63, p=. 0001). The T group (M=3.80) and the control group responses were not significantly different from each other although the T group respondents were more likely to sense that they had a number of good qualities, in comparison to the J+ (p=. 0001) and the J++ group respondents (p=. 01). Lastly the J+ group and the J++ group members' responses fell within sampling error of each other.

Groups also differed in terms of whether respondents felt at times they were any good at all, F (3,1394)=22.01, p=. 0001. The control group members (M= 1.90) were less likely to feel that they were useless, in comparison to the J+ group members (M=2.42, p=. 0001). The *Taru* group respondents (M=1.94) were less likely to feel like they were no good at all, in comparison to the J+ group members (p=. 0001). The J++ group members (M=2.01) were also less to feel that they were useless in contrast to the J+ group (p=. 0001). All other comparisons between groups were not statistically significant.

Respondents in the four groups also expressed varying degrees of desire to be some one other than who they were, F (3, 1378) = 42.24, p=. 0001, F (3, 1397) = 42.24,

p=. 0001. The control group members (M= 2.44) were least likely to aspire to be some one else, in comparison to the *Taru* (M=2.69, p = .008), the J+ (M= 3.46, p=. 0001) and the J++ group members (M= 3.09, p=. 0001). The *Taru* group members (M=3.08) were less likely to want to be somebody else, in comparison to the J+ group (p= .0001) and the J++ group members (p=. 0001). The J++ group members were also less likely to aspire to be some one else, in comparison to the J+ group members (p=. 0001). In sum, no clear pattern of effects emerged for the effects of the interventions on self-esteem.

Social Capital

Groups had different perceptions about their community members willingness to help, F (3, 1397)=5.02, p=. 002. In comparison to the T group(M=4.11, p=. 002), and the J++ group (M= 4.10, p=. 004), the control group members (M=3.89) were less likely to perceive their community member as being enthusiastic about helping their neighbors. The control group responses were not significantly different from the J+ group replies (M=3.93). The T group respondents were also more likely to indicate that their community members were eager to assist their neighbors, than the J+ group members (p = .01). The J + group responses did not differ from the J++ group replies. Respondents in the J++ group were more likely to believe that their community members were keen to extend a helping hand to their neighbors, in contrast to the J+ group members (p=. 02).

Even though respondents in the study felt in general that their community members' would be willing to help their neighbors, they were slightly less likely to believe that their neighbors would return a favor at a future date. Further, reactions to the statement "In this community, if you perform a favor for one of your neighbors, they will likely return the favor at some future date," varied across groups, F (3, 1387)=21.51, p=. 0001. The control group respondents (M=3.62) were least likely to point out that their neighbors would reciprocate a favor, in comparison to all three groups (p=. 0001). The T group members (M = 4.09) were as likely as the J+ group (M= 4.07) and the J++ group members (M=4.04) to indicate that their neighbors would return an act of goodwill.

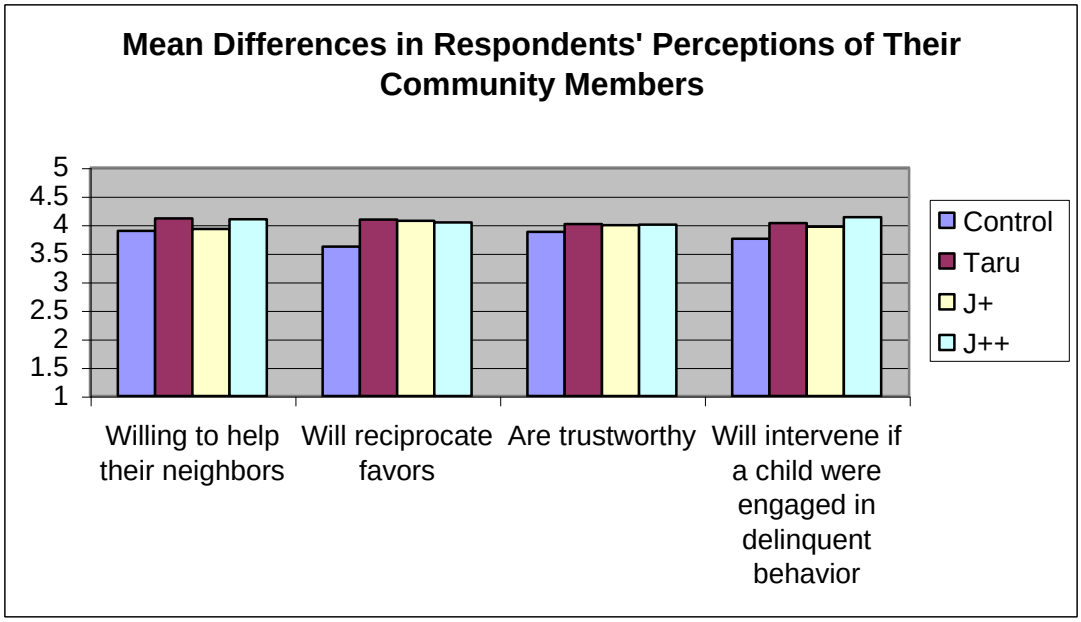
Likewise, the J+ group and the J++ group members were also not likely to differ significantly in their responses to this item.

Respondents in all four groups were equally likely to remain neutral or agree that that people in their communities were trustworthy[14]. No significant differences were found between respondents in all four groups F (3, 1394)=1.70, p=ns.

Groups thought differently about whether people in their communities would intervene if someone's child were engaged in delinquent behavior, F (3, 1390) = 15.53, p=. 0001. The control group members (M= 3.75) were significantly less likely to feel that community members would arbitrate if such an occasion arose, when compared to the T group (M=4.03), J+ (M=3.97) and J++ group members (M=4.13, p=. 0001). The T group members' responses were not significantly different from the J+ or the J++ group responses. However, in contrast to the interim phase, the J+ group members were significantly less likely to express that their community members would mediate a conflict situation among kids, when compared to the J++ group members (p=. 004).

When respondents were asked whether people in their community got along with each other, significant differences were observed between groups, F (3, 1394)=12.99, p=. 0001. The control group members (M=2.13) were significantly more likely to suggest that people in their community coexisted harmoniously, in comparison to the J+ group respondents (M=2.37, p=. 0001). The control group responses not differ significantly from the T group (M=1.95) or the J++ group replies (M= 2.21). The T group members were most likely to indicate that their community members got along well with each other, when compared to the control group (p=. 009), J+ group (p=. 0001), and the J++ group respondents (p=. 0001). The J++ group members were more likely to perceive that their community members co-existed peacefully, in comparison to the J+ group members (p=. 02). The chart below presents a description of mean differences in perceived social capital among respondents in the four groups.

[14] Control group M = 3.87, T group M=4.01, J+ group M=3.99, and J++ group M=4.10.



Individual Empowerment

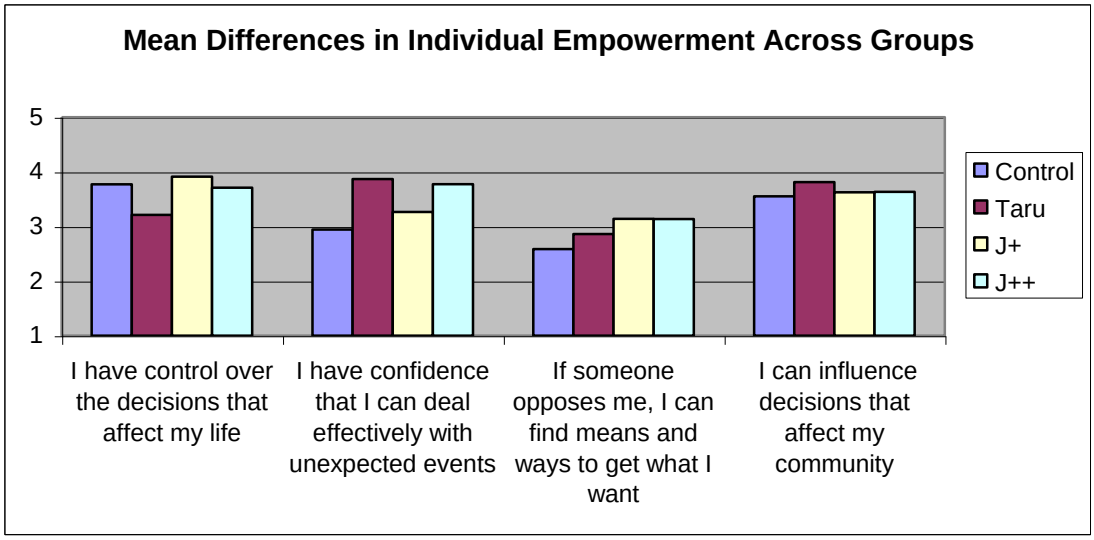
Individual empowerment was measured in terms of participants' perceived control over decisions that affected their lives, and their confidence in dealing with unexpected events. In addition, individual empowerment was also measured in terms of participants perceived self-confidence in getting what they wanted in the face of opposition, and their perceived ability to influence decisions affecting their community. Significant differences were observed in respondents' perceptions of control over decisions that affect their life," F= (3,1361)=30.66 p=. 0001. The control group respondents (M= 3.77) were more likely to experience control over decisions affecting their lives when compared to the T group members (M = 3.21, p=. 0001), but were as likely as the J+ (M=3.91) and the J++ group members (M=3.71) to feel empowered. The T group members were least likely to feel that they could direct their lives, when compared to the control group (p=. 0001), J+ group, (p=. 0001), and the J++ group respondents (p=. 0001). The J+ group was more likely to feel in charge of taking decisions that influenced their lives, when compared to the J++ group (p=. 009).

Respondents also exhibited differential levels of confidence in dealing effectively with unexpected events, F (3,1380)=61.02, p=. 0001. The control group members (M=2.94) expressed least confidence in their ability to deal with unexpected situations, when compared with all three groups (p=. 0001). The T group respondents (M=3.87) were more capable of handling unexpected life events in comparison to the J+ group members (M=3.27, p=. 0001). Also the J+ group was less certain of managing unforeseen circumstances, in comparison to the J++ group (M=3.77, p=. 0001).

Respondents had significantly different levels of confidence in their ability to find ways and means to get what they wanted in face of opposition, F (3,1391)=16.01, p=. 0001. The control group members (M=2.58) were least likely to feel competent, in comparison to the T group (p=. 003), the J+ group, (p=. 0001), and the J++ group (p=. 0001). The T group members (M= 2.86) were significantly less likely to experience a sense of competence in getting what they wanted, compared to the J+ group (M= 3.1, p = .003), and the J++ group members (M=3.14, p=. 003). The J+ group responses did not differ significantly from the J++ group replies.

Respondents also demonstrated varying levels of ability to influence decisions that affected their communities F (3,1361)=4.76, p=. 003. The control group (M=3.55) was less likely to feel capable of influencing community level decision in comparison to the T group (M= 3.81, p=. *0001),* but did not differ significantly from the J+(M=3.62) or the J++ group (M=3.63). The *Taru*-only group members were less certain about being able to make decisions that have some bearing on their community, in contrast to the J+ group (p=. 009), and the J++ group participants (p=. 01)). The J+ and the J++ group did not differ significantly on this item. The chart below suggests no clear pattern due to the interventions on individual empowerment.[15]

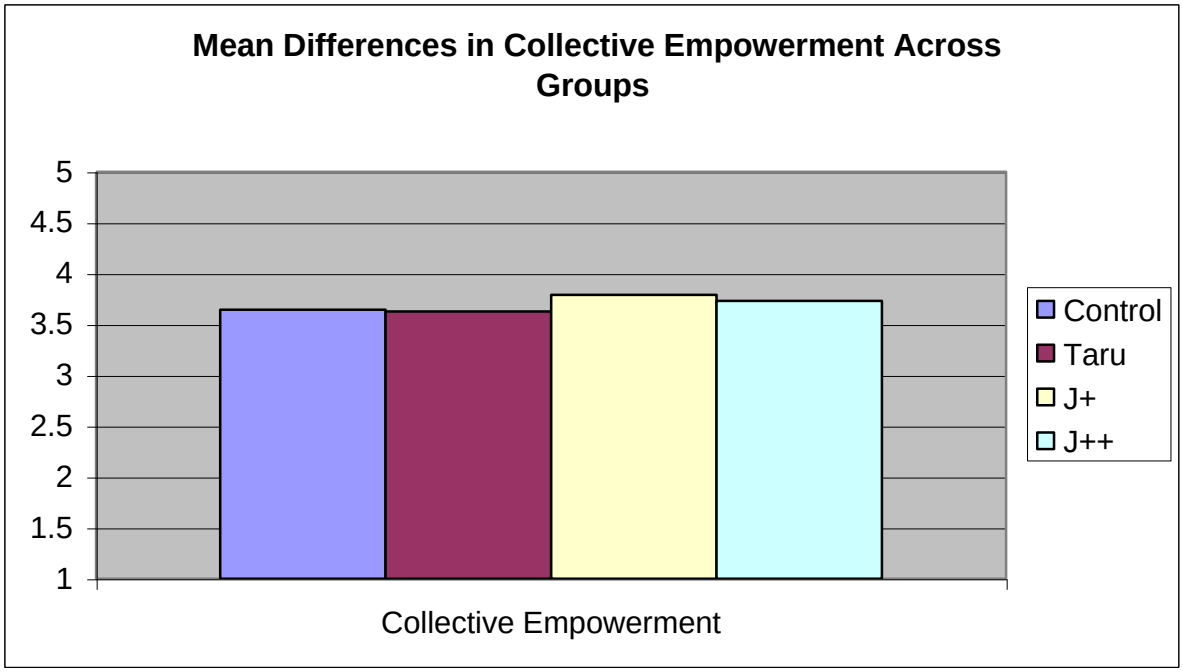
[15] Interestingly responses to all individual empowerment statements ranged from "neutral" to "agree" across all four groups.



Collective Empowerment

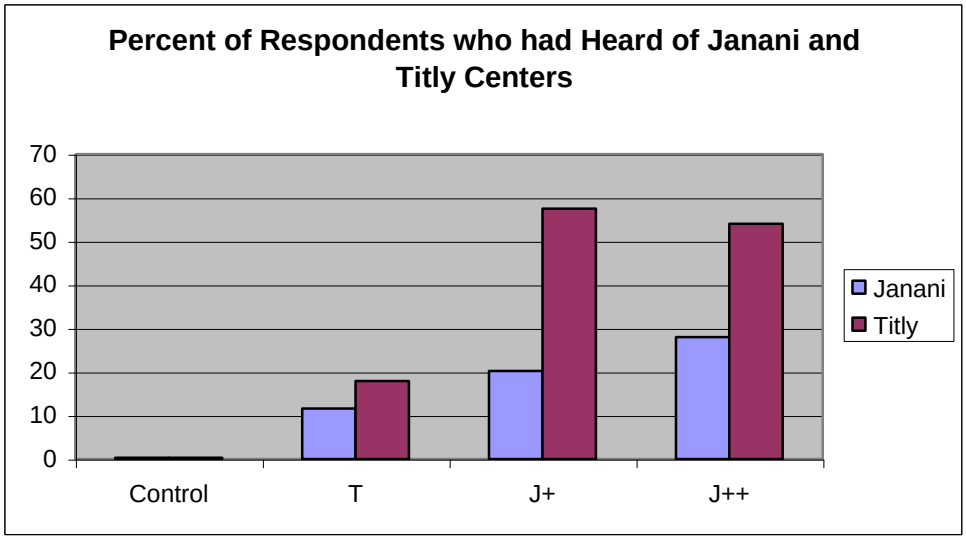
The four-item scale designed to measure collective empowerment was administered[16]. The reliability of the scale as assessed by Cronbach's alpha was .77. A one-way analysis of variance test revealed significant differences between groups, (F = 3, 1396) = 3.74, p=. 01). Specifically, the control group (M=3.64) was significantly less likely to experience a sense of collective empowerment in comparison to the J+ group (M=3.79, p= .009). The control group participants were as likely to feel collectively empowered, as the T group (M=3.63) and the J++ group respondents (M=3.73). The T group participants exhibited lower levels of collective empowerment respondents in the J+ group (p = .004), although the former did not differ from the J++ group members. Lastly the J+ group members also did not differ significantly from the J++ group respondents in levels collective empowerment. Overall, only small differences emerged due to the interventions, especially the J+ intervention, on collective empowerment.

[16] Items in the scale were "People in my community can mobilize resources to change things that are bothersome", "People in my community can freely discuss issues that affect us", People in my community can organize themselves to address social problems", and "People in my community can work together to influence decisions on the state or national level.



Janani's Service Delivery

When asked if respondents were familiar with Janani or its Titly Centers, only 0.3% of the control group participants (n=1) mentioned that they had heard of Janani. A little more than one tenth of the respondents (n = 41, 11.6%) in the T group were familiar with Janani. One out of five respondents in the J+ group (n= 71, 20.2%) and over one fourth the J++ group sample (28%, n=98) had also heard of Janani. With regard to the Titly centers, only one respondent (0.3%) in the control group, and 17.9% (n=63) in the T group were familiar with the Titly centers. In contrast, more than half the respondents in the J+ group respondents (57.5%, n= 202) and the J++ group (54%, n=187) had heard of the Titly centers. The chart below presents the percentage of respondents in all four groups who knew of Janani and its Titly centers.



None of the respondents who heard about the Titly centers in the control group visited the center to purchase anything. Of those in the T group familiar with the center, 3.2% of the respondents (n=2) purchased Apsara pills and got advice from "Didi," the woman health practitioner (WHP). In the J+ group, one tenth of the respondents (10.74%, n=15) who were aware of Titly purchased Apsara pills from the center, and 6.4% (n=13) got advice from the WHP. In the J++ group, 8.18% of the respondents (n=13) who had heard of the center purchased Apsara pills, 0 .6% (n=2) bought pregnancy dipsticks, while 4.6% (n=18) got medical advice from the center.

Almost all respondents (93.9%, n =46) who had heard of the Titly center in the T group felt that the center offered high quality service. A vast majority of them (89.8%, n = 44) also indicated that they trusted the Titly center products Over one fourth the respondents in this group (29.4%, n = 10) indicated that they knew friends who had used Titly Center products.

A vast majority of respondents in the J+ group (93.8%, n=152) mentioned that the quality of services offered by Titly center was superior, and almost equal proportion of participants (n = 153, 94.4%) stated that they trusted the Titly center products. More than half (55.4%, n=61) of this sample also indicated that their friends used Titly center products. A vast majority of the J++ group respondents (80.8%, n = 101) also attested to

the high quality of service offered by the center. A similar proportion of respondents (82.6%, n= 104) said that they trusted Titly center products, and more than half of them (51.9%, n = 53) indicated that they knew of friends who had used Titly center products.

No significant differences were found between the T group, the J+ group and the J++ group on perceived quality of services offered by the Titly center, F (2, 333)=2.59, p=ns. Thus the majority of respondents in the T group (M=4.20), J+ group (4.05), and J++ groups (M=3.09) were equally likely to believe that the Titly center offered superior quality of services. However significant differences between groups were found in 9a) levels of trust regarding Titly center products, F (2, 334) =6.19,p=. 002, and (2) the number of friends that respondents knew had used products from the Titly center, F (2, 243)= 3.12, p=. 02[17]. Post hoc analyses revealed that the T group respondents (M= 4.39) were more trusting of Titly center products than the J++ group members (M= 4.01,p=. 006). Similarly, the J+ group members (M= 4.31) had more faith in the center's products in comparison to the J++ group respondents (p=. 002). The T group members (M= 2.47) were less likely to know of friends who had used Titly center products, in comparison to the J+ group members (M=3.25, p=. 006) and the J++ group respondents (M=3.11, p=. 03). There were no significant differences in the responses of the J+ and the J++ group on this measure.

Respondents were also asked about their experiences with Surya clinics. None of the respondents in the control group had heard or visited a Surya Clinic. In the T group, a minority proportion of the sample (7.4% n = 26) had heard of the Surya Clinic, while no one had visited it. In the J+ group, more than one tenth of the sample (12.5%, n=45) had heard of the Surya Clinic, of which only 8.9% (n= 4) had visited the Clinic. Almost one fourth of the sample (24.6%, n = 85) in the J++ group were familiar with Surya Clinics and among them; 11.8% (n=10) had also visited.

Of the small number of respondents who had heard of Surya clinics, the vast majority of participants in the T group (93.8%, n= 15), all participants in the J+ group

[17] The control group was dropped from the analyses because only one participant responded to these items.

(n=18), and 95.7% (n=45) in the J++ group attested to the high quality of services offered at the Surya Clinics. Similarly, all of those responding in the T group (n=14), a vast majority in both the J+ (94.2%, n=16) and J ++ groups (91.1%, n=41) indicated that they trusted Surya Clinics products and services. Lastly, more than one third of the T group sample (38.5%, n= 5), 41.2% in the J+ group (n=7), and 63.3% (n= 19) of the J++ group sample stated that they knew friends who had visited the Surya clinics. However, no significant differences between the three groups were found on perceived quality of services (F (2, 78)=2.05,p=ns), levels of trust about Surya Clinic's products (F (2, 73)=1.25, p=ns) and the number of friends that respondents knew had used Surya products (F (2, 57)=1.81, p=ns)[18].

Thus, most respondents in the T group (M=4.56), the J+ group (M=4.22), and the J++ group (M=4.57) thought that the services offered at Surya Clinic were of superior quality. Likewise respondents in the T (M=4.79), J+ (M=4.41), and the J++ group (M=4.58) expressed faith in Surya Clinic products. A comparatively lower proportion of respondents in all three groups (T group M =2.77, J+ group M = 2.53, J++ group M=3.40) knew of friends who had used Surya Clinic products.

Perceptions of Ka Karoo Janani

Only 3 respondents in the control group (.3%) had heard of the radio program, *Ka Karoo Janani.* Each of these three respondents had listened to 10, 15 and 52 episodes of the show, respectively[19]. In contrast, 12.5% (n=44) of participants in the T group had heard of the show. Among them 40.91% (n=18) had listed to at least one episode of the show[20]. In the J+ group, less than one fifth of the sample (18.8% n=66) had heard of the show. Among this group, 34.85% (n=23) had listened to one or more of the episodes[21]. In

[18] The control group was dropped from the analyses because no participants responded to these items
[19] Mean = 25.67 episodes, Median = 15 episodes, Range = 10-52 episodes
[20] Mean=10.39 episodes, Median = 5.00, Mode = 2, Range = 2-50 episodes

[21] Mean = 7.87 episodes, Median = 3.00, Mode =2, Range = 1-32 episodes

the J++ group, one fourth of the sample (25.1%, n=87) was aware of *Ka Karoo Janani*. Of these individuals, 67.82% (n=59) had listened to at least one episode of the show[22].

Taru Related Results

As noted previously (in Table 1), because the number of respondents listening to *Taru* in the control group and the T group were too few, these two groups are being excluded from further analyses of *Taru* related results. We will focus only on the J++ and J+ groups where there were 45 and 11 listeners, respectively.

Regarding the question "who's your favorite character," of the 11 respondents who heard of the radio serial in the J+ group, four respondents (36.4%) picked Taru as their favorite, two respondents picked Neha, Ram Dulari and Shashikant (18.2%). One respondent (9.1%) in this group chose Firki Chachi as their favorite character. In the J++ group, 55.6% (n=25) liked Taru the most, followed by Neha, (n= 7, 15.6%), Ram Dulhari, (n=4, 8.9%), Aloni Baba and Shashikant (n=2, 4.4%). One person (2.2%) liked Guruji, Mangla, Ranjana, and Firki Chachi and one other respondent did not have a favorite character in the show.

Regarding one's "least favorite character," in the J+ group, 27.3% (n=3) did not have a least favorite character in *Taru*. Two respondents chose Aloni Baba (18.2%), Kapileshwar (18.2%), Ram Dulari (18.2%) and Firki Chachi (18.2%) as their least favorite character. In the J++ group, the majority (73.3%, n=33) did not have a least preferred choice of character. Some respondents (13.3%, n=6) disliked Mangla. Few others (2.2%, n=1) did not like Shashikant, Taru, Guruji, Ram Dulari, Nirmala and Firki Chachi.

Parasocial Interaction Outcomes

All *Taru* listeners of the J+ group (n=11) felt that the characters on the show were realistic. All of them in this group also felt sorry when something bad happened to a character on *Taru*. Exactly 50% of the respondent (n=5) felt like they knew some of the

[22] Mean = 7.32 episodes, Median = 5.00, Mode =3, Range =1-30 episodes

Taru characters as their friends[23]. The majority (n=9, 81.8%) of respondents in this group were tempted to give advice to certain characters in the show, and the exact same proportion of respondents said that they tended to talk back to one or more of the characters. More than three fourths of the *Taru* listeners (77.77%, n=7) said that they talked back to Taru, more than half (55.5%, n= 5) to Neha, and 33.3% (n=3) to 'spoke' to Shashikant. Two respondents 'communicated' with Ram Dulari (22.22% n=2) and one person in this group talked to Guruji (11.1%).

The majority of *Taru* listeners in the J++ group (n=40, 88.9%) felt that the characters on the show were realistic. More than three quarters of the *Taru* listeners in this group (n=35, 77.8%) felt bad when something bad happened to a character on *Taru*. Less than half of the listeners (44.4% n=20) felt that they knew some of the *Taru* characters as their friends. More than half of them (55.6%, n=25) felt like giving advice to a character and tended to talk back to a character on the show (52.3%,n=23). Among those who talked back to a character, 60.87% (n=14) talked back to Taru, 39.13% (n=9) to Shashikant , 21.74% (n=5) to Neha, and 13.04% (n=3) to Mangla . One respondent talked back to Ram Dulari (4.35%) and Firki Chachi (4.35%).

More than three quarters of the *Taru* listeners in the J+ group (77.8%, n=7) liked Shashikant and half of this sample (n=5) also thought that this character was similar to them. Further, 60% (n=6) of the respondents identified with Shashikant, and the majority (80%, n=8) desired to be like him. A vast majority of *Taru* listeners in the J++ group (92.7%, n=33) liked Shashikant and more than one fourth of this sample (27.8%,n=10) thought that his character was similar to them. Exactly one fourth of this sample (25%, n=9) identified with this character and 62.9% (n=22) wanted to be like him[24].

All *Taru* listeners in the J+ group liked *Taru* (n=10), and 70% of them (n=7) found her character similar to theirs. Some 50% of them (n=5) identified with her, and the majority (80%, n=8) even aspired to be like her. In contrast, all respondents in the J++

[23] One person did not respond to this item.
[24] Only 35 participants responded to this item.

group (n=43) liked Taru and 25.6% (n=11) thought that her character was very much like them. Less than one third of the respondents in this sample (30.2%, n=13) identified with Taru and more than half of them (58.2%,n=25) wanted to be like her.

The majority of *Taru* listeners in the J+ group (81.81%, n=9) liked Neha. More than half of the participants in this group (54.55%, n=6) also found this character to be similar to them. Further, 45.45% (n=5) identified with this character and 54.55% (n=6) yearned to be like her. In J++ group, almost all the participants (97.5%, n=39) indicated that they liked her. One fourth of *Taru* listeners in this group (25%, n=10) thought that the character of Neha was very much like them, and a little less than that proportion (22.5%, n=8) identified with her. More than half of this sample (52.5%, n=21) also expressed a desire to be like her.

Entertainment Value of *Taru*

All *Taru* listeners in the J+ group (n=11) thought that *Taru* was entertaining, and that the theme song was catchy. All of them expressed that that the serial kept them in suspense from episode to episode. Furthermore, almost all respondents in this group (91%, n=10) mentioned that the quality of the production of the serial was very good, and all of them in this group felt that the quality of the story was very good as well. All listeners in this group wished that *Taru* had lasted longer.

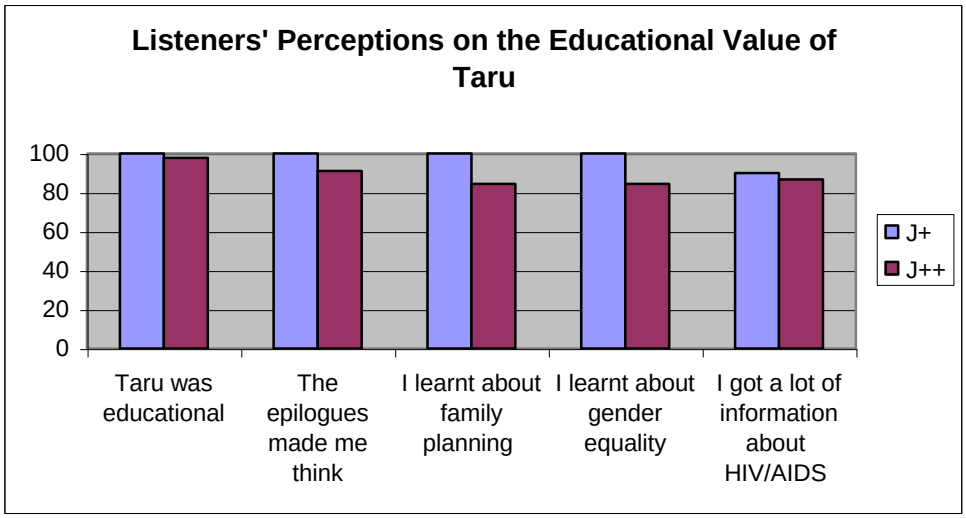
Almost all *Taru* listeners in the J++ group (97.8%, n= 44) felt that *Taru* was entertaining and that the theme song was very catchy. The majority (88.89%, n=40) in this group pointed out that the serial had kept them in suspense from show to show, and wished that it had lasted longer. Similarly almost all *Taru* listeners in the J++ group (97.7%, n=44) felt that the production of *Taru* was of high quality and that the story of the show was very good.

Educational Value of *Taru*

All *Taru* listeners in the J+ group (n=11) expressed that listening to *Taru* had been an educational experience. They noted that the epilogues at the end of each *Taru* episode make them think about the key educational messages in that episode. Likewise,

all *Taru* listeners in this group indicated that they had learnt a lot about gender quality, and family planning from listening to *Taru*. Further, all but one respondent in this group (90.9%, n=10) mentioned that *Taru* provided them with a lot of good information about HIV/AIDS.

In the J++ group, almost all *Taru* listeners (97.8%, n=44) felt that *Taru* was educational. A little lower than that proportion (91.1%, n=41) noted that the epilogues in the shows were particularly thought provoking. The majority of *Taru* listeners (84.44%, n=38) had learnt a lot about family planning and gender equality from listening to this show. A vast majority of respondents in this group (86.7%, n=39) also got beneficial information about HIV/AIDS from listening to this show. The chart below presents the percentage of respondents who felt that *Taru* had been an educational experience.



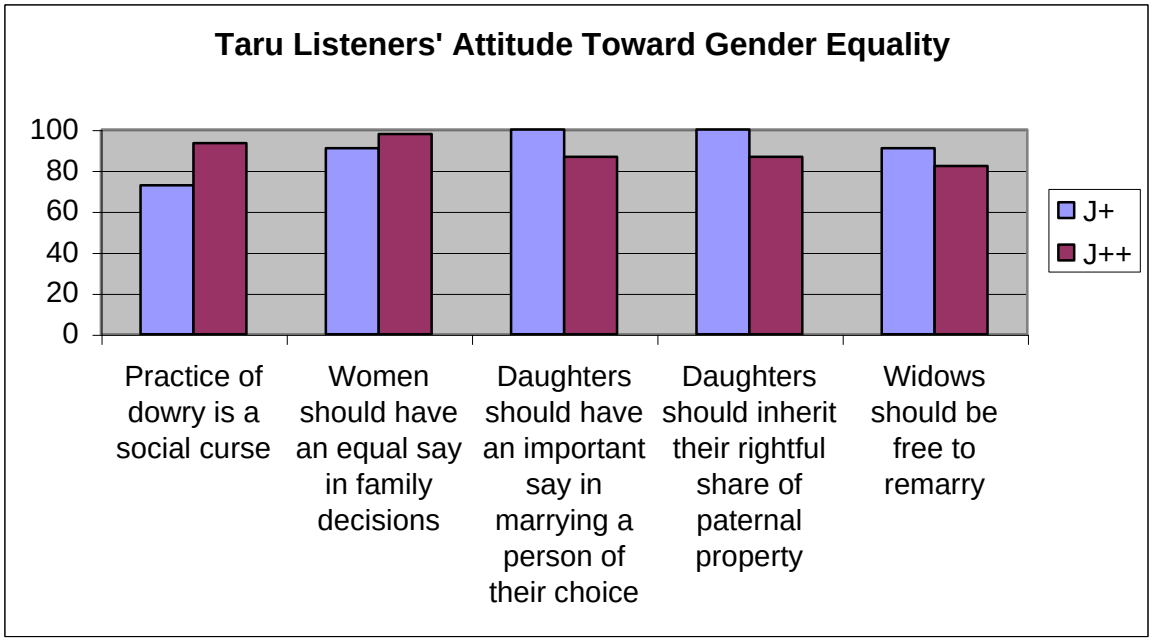
Taru listeners in both groups also indicated that they talked about *Taru* to their friends, families and spouses. Almost three fourth of the *Taru* listeners in the J+ group sample (72.72%, n=8) talked about the serial with their friends and more than half (54.55%, n=6) had talked to their family. In the J++ group 84.44% (n=38) talked with their friends and 68.89% (n=31) had communicated about *Taru* to their friends. *Taru* listeners in the J+ group (72.72%, n=8) and J++ group (64.44%, n=29) had also talked with their spouses about *Taru*.

Key Findings: Among *Taru* listeners, the show was universally liked, and the characters resonated strongly with the respondents. Listeners thought the show was both entertaining and educational. Listeners believed the show was of high production quality.

Impact of *Taru* on Social Attitudes

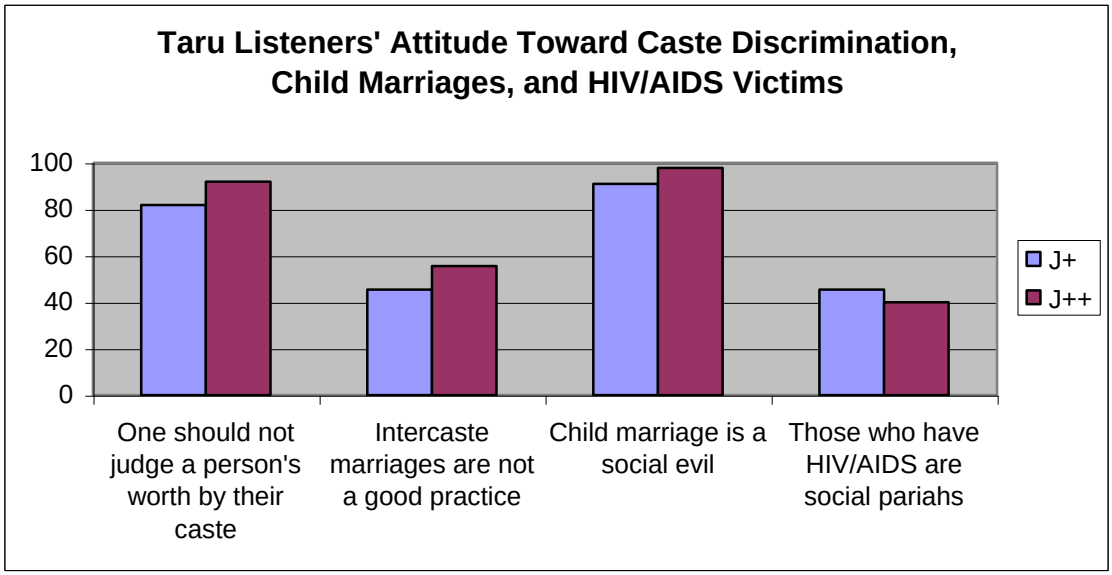
Taru listeners in both the groups expressed their attitudes toward gender equality, HIV AIDS victims, and the caste structure. All *Taru* listeners in the J+ group (n=11) and the J++ groups (n=45) felt that girls should be educated as much as boys. However, *Taru* listeners in the two groups differed in their opinion about the practice of dowry. Whereas almost three fourth of the J+ group listeners (72.72%, n=8) felt that the practice of dowry was a social curse, almost all listeners in the J++ group (93.33%, n=42) endorsed this view. Also, while majority of the *Taru* listeners of the J+ group (90.90%, n=11) felt that women should have an equal say in family decisions, almost all *Taru* listeners (97.78%, n=44) in the J++ group expressed agreement with this view.

Overall, *Taru* listeners in both groups expressed positive attitude toward gender equality. Majority of the J+ group listeners (81.9%, n=9) and almost all listeners of the J++ group (93.4%, n=42) felt that their daughters should have an important say in marrying a person of their choice. Similarly, all listeners in the J+ group (n=11) and 86.67% (n=39) in the J++ group felt that daughters should inherit their rightful share of paternal property. Further more, a vast majority of the J+ listeners (90.90%, n=10) felt that widows should remarry. In contrast, 82.22% (n=37) of the J++ group respondents endorsed this view. The chart below presents the percentage of *Taru* listeners in J+ and J++ group respondents in agreement with statements on gender equality.



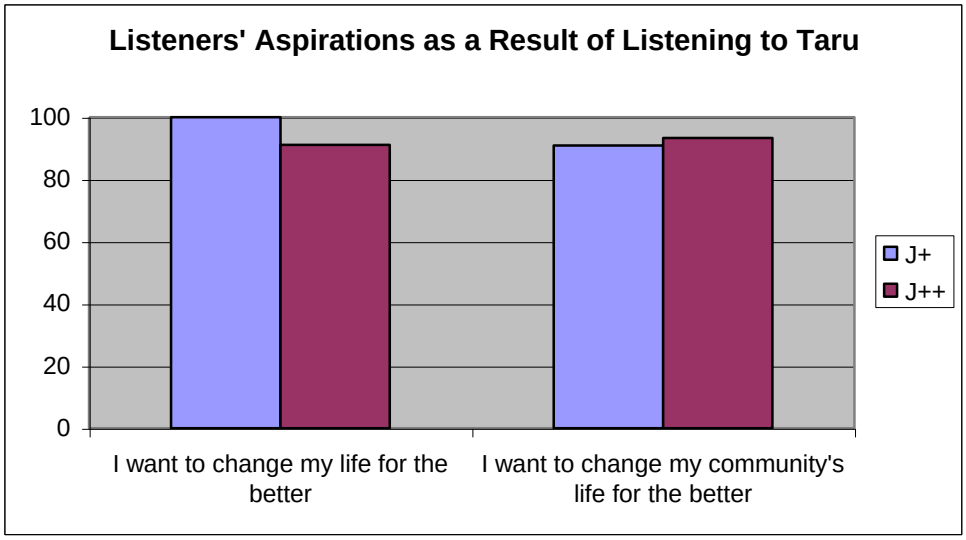
Taru listeners in both groups also responded to statements that probed into their attitude toward inter-caste marriages, child marriages, and HIV AIDS victims. A large proportion of *Taru* listeners in the J+ group (81.82%, n=9) and a comparatively higher proportion of J++ listeners (91.11%, n=41) felt that one should not judge a person's worth by their caste. Although the majority of *Taru* listeners in the J+ group felt that caste was not an appropriate basis to make judgments regarding one's character, 45.45%, (n=5) believed that inter-caste marriages were not a good practice. Similarly in the J++ group, while the majority of *Taru* listeners believed that caste could not serve as a basis for judgment of character, 55.55% (n=25) felt negatively toward intercaste marriages. With respect to child marriages, all but one *Taru* listener in the J+ group (90.90%, n=10) as well as the J++ group (n=44, 97.78%) felt that child marriages were a social evil. And lastly, less than half of the *Taru* listeners in the J+ group (45.45%, n=5) and 40% in the J++ group (n=18) believed that those infected with HIV/AIDS were social pariahs. The next chart presents the percentage of *Taru* listeners expressing agreement with the

statements on caste and child marriages, and HIV AIDS victims. It suggests that the more intensive the intervention, the stronger the pro-social attitudes.



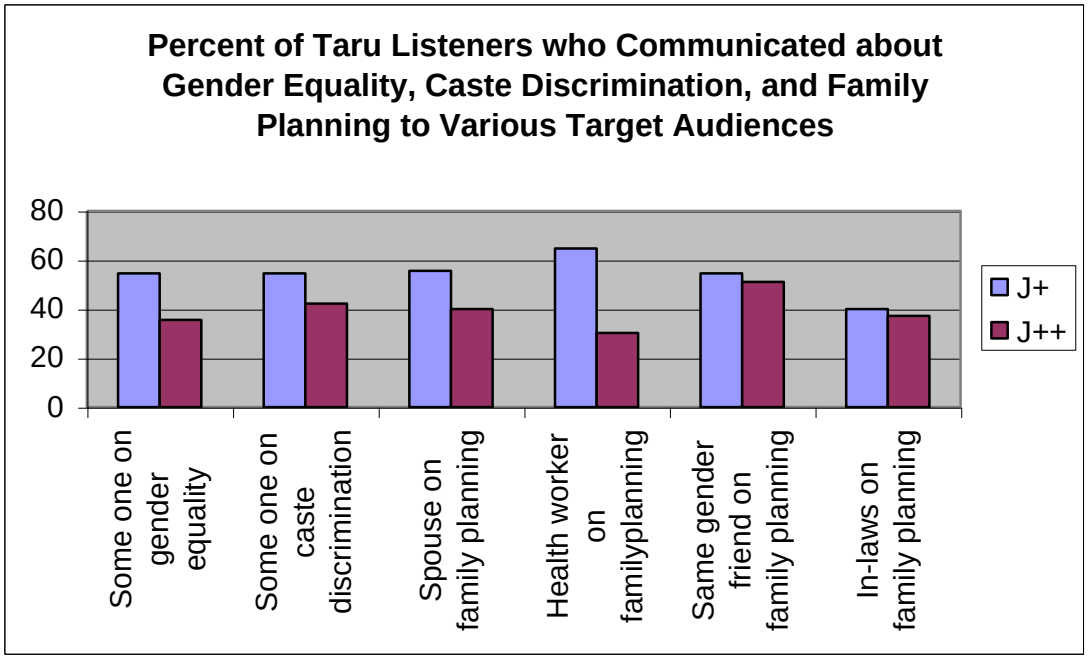
Impact of *Taru* on Participants' Aspirations and Behaviors

Taru had a substantial impact on aspirations and behaviors of respondents who listened to the show. All the listeners in the J+ group (n=11) and the vast majority of listeners in the J++ group (91.11%, n=41) wanted to change their lives for the better after listening to the show. Likewise, most listeners in the J+ group (90.90%, n=10) and the J++ group (93.33%, n=42) wanted to change the life of their community for the better. The next chart presents group differences in aspirations that grew out of listening to *Taru*.

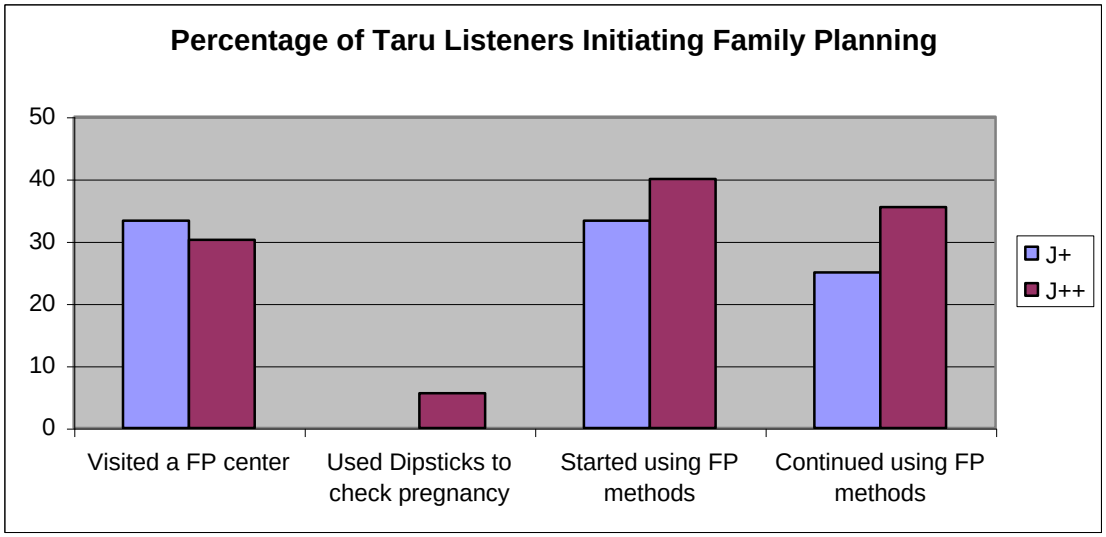


More than half of the *Taru* listeners in the J+ group (54.5%, n=6) and more than one thirds in the J++ group (35.6%, n=16) had talked to someone on gender equality as a result of listening to *Taru*. Similarly, 54.5% of the listeners (n=6) in the J+ group and 42.2% (n=19) in the J++ group had also communicated with someone on the topic of caste discrimination after listening to this show.

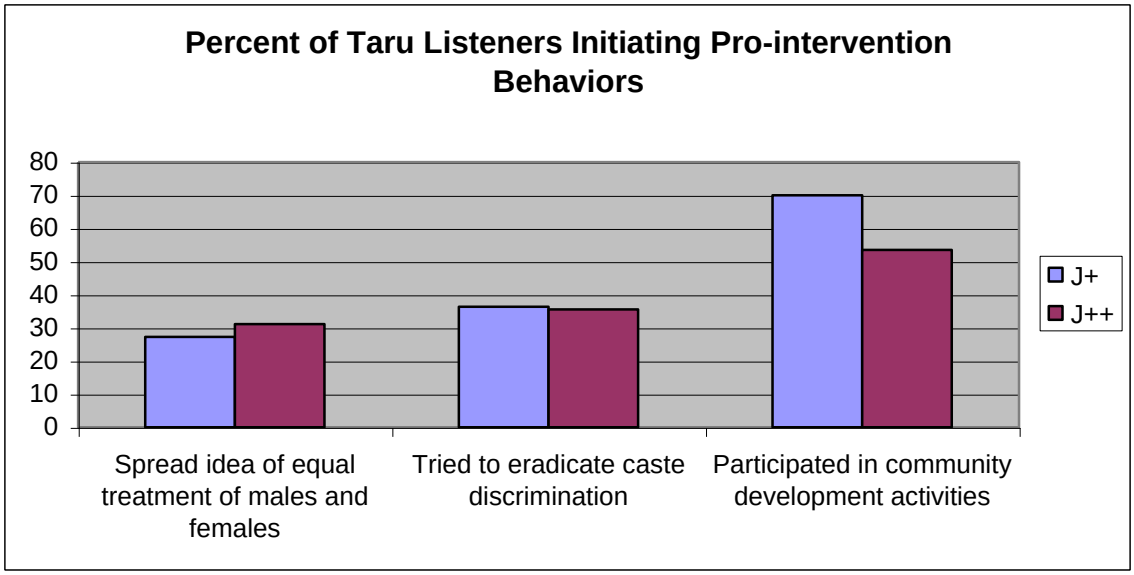
More than half of the *Taru* listeners in J+ group sample (55.6%, n=5) spoke to their spouse about family planning after listening to *Taru*, and 40% of respondents in this group (n=4) also talked with a family planning workers. In the J++ group, 64.71% (n=22) of the *Taru* listeners spoke to their spouse, while 30.23% (n=13) communicated to a health worker about family planning issues. Further, 54.55% (n=6) of the listeners in the J+ group communicated about family planning with their same gender friends, and 40% of the participants (n=4) interacted with their in-laws. In contrast, 51.1% (n=23) of *Taru* listeners in the J++ group talked to a same gender friend about family planning, and 37.21% (n=16) also communicated on this matter with their in-laws. Differences in the proportion of listeners of J+ and J++ who communicated about these issues to various target audiences are presented in the chart below.



Taru listeners in the two groups also reflected differential patterns of behaviors related to family planning. Exactly one third of the listeners in the J+ group (33.3%, n=3), and a little lesser proportion in the J++ group sample (30.23%, n=13) visited a family planning center as a result of listening to *Taru*. While no *Taru* listener in the J+ group used dipsticks to check for pregnancy, 5.6% (n=2) of respondents in the J++ group had used pregnancy dipsticks, after listening to *Taru*. One third of the *Taru* listeners in the J+ group (33.3%, n=3) reported using family planning methods as a result of listening to *Taru*. In contrast, 40% of the *Taru* listeners in the J++ group (n=14) initiated family planning after listening to the show. Only one fourth of the *Taru* listeners in the J+ sample (25%, n=2) and 35.48% (n=11) in the J++ group continued to use of family planning methods regularly. Furthermore, 30% of *Taru* listeners in the J+ group (n=3) and 40% in the J++ group (n=18) reported adopting precautionary methods to prevent HIV/AIDS.



Some *Taru* listeners in both groups took the initiatives to spread the idea of gender equality, and tried to eradicate gender discrimination in various community initiatives as a result of listening to *Taru*. More than one fourth of the J+ group listeners (27.27%, n=3) spread ideas of equal treatment of males and females in their community. In contrast, almost one third of the *Taru* listeners in the J++ group (31.11%, n=14) engaged in a similar process. Also, 36.36% (n=4) of the listeners in the J+ group and 35.56% (n=16) in the J++ group tried to do something to eradicate caste discrimination. While 70% of *Taru* listeners in the J+ group (n=7) participated in community development activities, more than half the listeners in the J++ group (53.49%, n=23) were involved in such activities. The chart below presents percentage of listeners in both groups initiating behaviors promoted by the *Taru* program.



Conclusions

Overall, *Taru* as a radio program was universally liked, thought to be realistic, of high production and story quality, and had likeable characters with whom audience members identified with. Frequently, the results showed the respondents in the *Taru* group had as positive attitudes, perceptions, and behaviors as those in the other more orchestrated groups. Interestingly, the results suggest that *Taru* and the other interventions tended to influence individual-level variables relatively equally while the intensive community interventions (J+, J++) tended to influence community-level variables.

There are several limitations to this quasi-experiment study, most notably the few numbers of actual listeners to *Taru* in each group. Though the perceptions and behaviors of *Taru* listeners were extremely positive and in accordance with program goals, the small numbers of actual listeners was very small so we cannot say with confidence whether or not the results are generalizable to the general population.

Further, future analysis should examine the complete panel of participants who responded to all three surveys, and conduct attrition analysis to assess what differences (if

any) existed between mid-broadcast drop-outs and those retained through the surveys for post-broadcast surveys.

In summary, this report suggests strong, consistent, and pro-social effects in a quasi-experiment comparing a control group (C) , with *Taru*-alone (T), with Janani activities plus *Taru* (J+), and with Janani and community-based orchestration activities plus *Taru* (J++). Future analysis should carefully explore the interrelationships among the variables in an effort to carefully isolate the causes and effects of exposure to *Taru* on pro-social outcomes.

References

Population Foundation of India. (2002). *District profile: Bihar*. New Delhi, India.

TARU PROJECT – QUANTITATIVE REPORT #4

Sales of Condoms, Pills, and Pregnancy Dipsticks at Titly Centers in Villages where pre-Program Publicity was Orchestrated and *Taru* Listening Groups Were Established.

by

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with the assistance

of

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December, 2003

Athens, OH: Ohio University, School of Communication Studies.

Assessing Service Delivery in Highly-Orchestrated *Taru* Villages

> In February, 2002, four villages in Bihar State – Village Abirpur in Vaishali District, and villages Kamtaul, Madhopur, and Chandrahatti in Muzzaffarpur District -- became the center of a novel experiment in entertainment-education radio broadcasting, when All India Radio, in cooperation with Population Communications International (PCI), New York, broadcast an entertainment-education radio soap opera, *Taru*, in four Hindi-speaking states, Bihar, Jharkand, Madhya Pradesh, and Chhatisgarh[iii]. All India Radio and PCI's ground-based partner in these four Indian states was Janani, a non-governmental organization that promotes reproductive health care services in these four Indian states.

All the four villages (mentioned above) had a Titly Center, a health clinic run by a rural health practitioner (RHP) with support from a woman health practitioner (WHP) (who almost always is the RHP's spouse). The Titly Centers run by the RHPs are a part of the village-based rural health network of Janani. Janani trains the RHP and the WHP in a three-day crash course in reproductive health care, first-aid, maternal and child health, and diagnosis and treatment of STIs/RTIs (sexually-transmitted infections and reproductive tract infections). Janani purposely invites both the RHP and his spouse for training as most rural Indian woman are embarrassed to seek reproductive health services from a male RHP. Now, with a trained woman health practitioner, female villagers could discuss sex, seek prenatal and antenatal care, and access contraceptives. After the training, once the RHPs register in Janani's rural health network, Janani makes them stockists of its branded Mithun ("Bull") condoms, Apsara ("Angel") oral contraceptive pills, and pregnancy dipsticks.

> In these four villages in Bihar State, pre-program publicity for *Taru* was conducted by Janani's RHPs using posters, stickers, and leaflets. Further, folk performances dramatizing the *Taru* storyline were carried out a week prior to the radio serial's broadcasts to further prime the message reception environment. The RHPs spread

word-of-mouth messages about the folk performance, encouraging hundreds of people to attend (the average attendance was 600 to 800 people), and awarded transistors (with a sticker of *Taru's* logo) to groups who correctly answered questions based on the folk performance. These groups were then formalized as *Taru* radio listening clubs. Some four to five *Taru* listening groups were established in each of these four villages. Each listening group received an attractive notebook (with a *Taru* logo), and were encouraged urged to discus the social themes addressed in *Taru*, relate them to their personal circumstances, and record any decisions, or actions, they took as a result of being exposed to *Taru*.

The RHPs and WHPs in these four villages were given high visibility during the conduct of the folk performances, and their services were promoted among the village community members. Further, RHPs and WHPs took responsibility for locally coordinating and facilitating the activities of the *Taru* listening groups during the one-year broadcast run of *Taru.* The social impacts of group listening to *Taru* in these four villages are documented elsewhere (in the three qualitative reports submitted to Population Communications International – see Singhal et al. 2004, Harter et al., in press; and Papa et al., 2004).

Purpose

In the present report, we detail the quantities of Mithun condoms, Apsara oral contraceptive pills, and pregnancy dipsticks that were sold by the RHPs in these four villages to end-users during the time that *Taru* was broadcast in Bihar – February, 2002 to February, 2003. These data were collected for us independently by Janani[iv]. Here we summarize the main trends in the sales of condoms, pills, and pregnancy dipsticks in these four villages, where group listening to *Taru* was orchestrated in advance and by design, and where the RHPs and the WHPs, including their Titly Center and their services, were highly promoted.

While our present methodology does not permit us to draw direct causal connection between the broadcasts of *Taru* and the increase in sales of condoms, pills, and pregnancy dipsticks in these four villages, our findings from the qualitative studies conducted in these four villages (Singhal et al. 2004, Harter et al., in press; and Papa et al., 2004) suggest that group listening to *Taru* spurred communication among community members about the need for girl's education and small family size, helping create a more enabling environment for villagers to seek services offered by the local Titly Centers. Our qualitative findings also suggest that the enhanced visibility of the local RHP and WHP as a result of the various *Taru*-related pre-publicity and orchestration activities (including the organizing of the folk performances, handing out the transistor-radio awards to listening group members, etc.) led more villagers to seek their services.

Here we report the sales of Mithun condoms, Apsara oral contraceptive pills, and pregnancy dipsticks in these four villages during the time that *Taru* was broadcast[v].

Service Delivery in Village Abirpur.

The rural health practitioner (RHP) of Village Abirpur's Titly Center is Manoj Maharaj. His wife, Chanchala Devi, serves as the woman health practitioner (WHP).

In Abirpur,

*Sales of Mithun condoms went up from 45 pieces in the month of February, 2002, to 90 pieces in August 2002, to 102 pieces in January, 2003. This represents a 227 percent increase in condom sales to the end-user during the time *Taru* was broadcast.

*Sales of Apsara oral contraceptive pills went up from 15 cycles in the month of February, 2002, to 22 cycles in October 2002, to 30 cycles in December, 2002. This represents a 200 percent increase in oral contraceptive pills to the end-user during the time *Taru* was broadcast.

*Sales of pregnancy dipsticks went up from 3 pieces in the month of February, 2002, to 5 pieces in August 2002, to 25 pieces in October, 2002. This represents an 833 percent increase in the sales of pregnancy dipsticks to the end-user during the first eight months that *Taru was* broadcast. Sales of pregnancy dipsticks dropped down to 5 pieces in December 2002, which still represents a 167 percent increase since *Taru* began its broadcasts.

Service Delivery in Village Kamtaul

The rural health practitioner (RHP) of Village Kamtaul's Titly Center is Shailendra Singh. His wife, Sunita Singh, serves as the woman health practitioner (WHP).

In Kamtaul,

*Sales of Mithun condoms went up from 22 pieces in the month of February, 2002, to 90 pieces in August 2002, to 150 pieces in January, 2003. This represents a 680 percent increase in condom sales to the end-user during the time *Taru was* broadcast.

*Sales of Apsara oral contraceptive pills went up from 5 cycles in the month of February, 2002, to 16 cycles in October 2002, to 29 cycles in January, 2003. This represents a 580 percent increase in oral contraceptive pills to the end-user during the time *Taru was* broadcast.

*Sales of pregnancy dipsticks went up from 1 piece in the month of February, 2002, to 5 pieces in August 2002, to 6 pieces in January, 2003. This represents a 600 percent increase in oral contraceptive pills to the end-user during the time *Taru was* broadcast.

Service Delivery in Village Madhopur

The rural health practitioner (RHP) of Village Madhopur's Titly Center is Jitendra Pratap Singh. His wife, Neelam Devi, serves as the woman health practitioner (WHP).

In Madhopur,

*Sales of Mithun condoms went up from 45 pieces in the month of February, 2002, to 92 pieces in August 2002, and then down to 60 pieces in November, 2003. This still represents a 133 percent increase in condom sales to the end-user during the first nine months that *Taru was* broadcast. However, condom sales in January, 2003, were down to 42 pieces, about the same levels as before *Taru's* broadcast.

*Sales of Apsara oral contraceptive pills went up from 7 cycles in the month of February, 2002, to 15 cycles in August 2002, to 30 cycles in January, 2003. This represents a 400 percent increase in oral contraceptive pills to the end-user during the time *Taru was* broadcast.

*Sales of pregnancy dipsticks went up from 1 piece in the month of February, 2002, to 2 pieces in October, 2002, to 4 pieces in January, 2003. This represents a 400 percent increase in the sales of pregnancy dipsticks to the end-user during the time that *Taru was* broadcast.

Service Delivery in Village Chandrahatti

The rural health practitioner (RHP) of Village Chandrahatti''s Titly Center is Ajay Kumar. His wife, Kalpana Singh, serves as the woman health practitioner (WHP).

In Chandrahatti,

*Sales of Mithun condoms went up from 30 pieces in the month of February, 2002, to 39 pieces in August 2002, to 90 pieces in November, 2002. This represents a 300 percent increase in condom sales to the end-user during the first nine months that *Taru was* broadcast. However, sales of condoms were down to 20 pieces in January, 2003, lower than the levels before *Taru's* broadcasts.

*Sales of Apsara oral contraceptive pills went up from 10 cycles in the month of February, 2002, to 60 cycles in November 2002, and then dropped to 42 cycles in January, 2003. This still represents a 420 percent increase in oral contraceptive pills to the end-user during the time that *Taru was* broadcast.

*Sales of pregnancy dipsticks went up from 2 pieces in the month of February, 2002, to 3 pieces in September, 2002, to 4 pieces in January, 2003. This represents a 200 percent increase in the sales of pregnancy dipsticks to the end-user during the time that *Taru was* broadcast.

Conclusions

The service delivery data collected from these four highly-orchestrated *Taru* villages, coupled with insights we gained from our detailed qualitative studies in these villages (Singhal et al. 2004, Harter et al., in press; and Papa et al., 2004), suggests that (a) the enhanced visibility of the RHPs and WHPs during the pre-broadcast publicity phase of *Taru*, (2) and the group listening outcomes of *Taru*, especially in terms of spurring of conversations and dialogue among community members about the need for girl's education and small family size, helping create a more enabling environment for villagers to seek services offered by the local Titly Centers. For instance, sales of Mithun condoms increased over 227 and 680 percent, respectively in Abirpur and Kamtaul villages (in Madhopur and Chandrahatti, condom sales increased significantly during the first nine months of *Taru*'s broadcasts and then dropped down to about the original baseline levels); sales of Apsara pills increased over 200, 580, 400, and 420 percent, respectively, in Abirpur, Kamtaul, Madhopur, and Chandrahatti villages; and sales of pregnancy dipsticks increased 167, 600, 400, and 200 percent, respectively, in Abirpur, Kamtaul, Madhopur, and Chandrahatti villages.

References

Lynn Harter, Devendra Sharma, Saumya Pant, Arvind Singhal, and Yogita Sharma (in press, 2004). Catalyzing Social Reform through Participatory Folk Performances in Rural India. A chapter in Larry Frey and Kevin Carragee (Eds.) *Communication and Social Activism*. Cresskill, NJ: Hampton press.

Michael J. Papa, Arvind Singhal, Devendra Sharma, Saumya Pant, Tracy Worrell, Nithya Muthuswamy, & Kim Witte (2004, May). *Entertainment-Education and Social Change in Bihar, India: The Communicative Dynamics of Social Capital.* Paper to be presented to the Intercultural and Development Communication Division of the International Communication Association, New Orleans.

Arvind Singhal, Devendra Sharma, Michael J. Papa, & Kim Witte (2004). Air Cover and Ground Mobilization: Integrating Entertainment-Education Broadcasts with Community Listening and Service Delivery in India. A chapter in Arvind Singhal, Mike Cody, Everett M. Rogers, and Miguel Sabido (Editors) (in press, 2004). *Entertainment-Education and Social Change: History, Research, and Practice*. Mahwah, NJ: Lawrence Erlbaum Associates.

OVERVIEW AND EXECUTIVE SUMMARY
OF
TARU PROJECT – QUALITATIVE REPORTS

Compiled by

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Submitted to

Population Communications International
December, 2003

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Overview of Qualitative Study

In four villages in Bihar State, folk performances dramatizing the *Taru* storyline were carried out a week prior to the radio serial's broadcasts (in mid-February 2002) to prime the message reception environment. These included Abirpur Village in Vaishali District and Kamtaul, Madhopur, and Chandrahatti Villages in Bihar's Muzaffarpur District. Janani's rural health practitioners in these four villages spread word-of-mouth messages about the folk performance, encouraging hundreds of people to attend (the audiences ranged from 800 to 1,000 people), and awarded transistors (with a sticker of *Taru's* logo) to groups who correctly answered questions based on the folk performance. These groups were then formalized as *Taru* radio listening clubs. Each group received an attractive notebook (with a *Taru* logo), and were encouraged urged to discus the social themes addressed in *Taru*, relate them to their personal circumstances, and record any decisions, or actions, they took as a result of being exposed to *Taru*.

These four villages provided a unique opportunity to qualitatively assess the process through which community members enact system-level changes as a result of exposure to *Taru*. Initially, we focused our efforts to assess community-level changes mostly in Village Abirpur -- designating it as the "community case study village". However, given the reports of community-level changes from the other three villages, we additionally (as a bonus) collected data from villages Kamtaul, Madhopur, and Chandrahatti.

In Village Abirpur, researchers from Ohio University and the Center for Media Studies in New Delhi made ten rounds of visits during 2002-2003, spending about 100 person days. Some five rounds of visits were made to other three villages, representing a total stay of 30 person days. During this time, in these four villages, some 60 in-depth and 25 focus group interviews were conducted with *Taru* listeners, their family members, and community leaders. These interviews were audio-taped, and transcribed from Hindi into English. Our team members also investigated examples of individual and social change reported by villagers employing qualitative techniques of participant-observation, note-taking, participatory photography, and video documentation.

In July, 2003, five months after *Taru* ended its broadcasts in Bihar State, we returned to our research site to organize participatory theater workshops for 50 members of *Taru* listening clubs, hailing from these four villages. This participatory theater workshops represented an action-based social activism/research exercise which was not a part of the our original research grant mandate from Population Communications

International; in essence, they represent a bonus intervention/research activity in Bihar. The week-long theater workshop was designed to empower each group to develop participatory theatrical performances to capture (a) their personal and group listening experiences in relation to *Taru* and (b) their concomitant attempts to secure political and social reform in their respective villages. These folk performances were then staged in all four villages in an attempt to bring the personal narratives of the participants into the realm of public discourse.

Three Qualitative Study Reports

Three qualitative reports documenting the system-level changes in these four villages as a result of the catalytic effects of *Taru*, including intervention of the participatory theater workshops, have been distilled and are enclosed. We are especially pleased to note that each of these reports, independently, represents a refereed peer-reviewed publication. Their full citations are:

Taru Qualitative Report #1: Arvind Singhal, Devendra Sharma, Michael J. Papa, & Kim Witte (2004). Air Cover and Ground Mobilization: Integrating Entertainment-Education Broadcasts with Community Listening and Service Delivery in India. A chapter in Arvind Singhal, Mike Cody, Everett M. Rogers, and Miguel Sabido (Editors) (in press, 2004). *Entertainment-Education and Social Change: History, Research, and Practice*. Mahwah, NJ: Lawrence Erlbaum Associates.

Taru Qualitative Report #2: Michael J. Papa, Arvind Singhal, Devendra Sharma, Saumya Pant, Tracy Worrell, Nithya Muthuswamy, & Kim Witte (2004, May). *Entertainment-Education and Social Change in Bihar, India: The Communicative Dynamics of Social Capital.* Paper to be presented to the Intercultural and Development Communication Division of the International Communication Association, New Orleans.

Taru Qualitative Report #3: Lynn Harter, Devendra Sharma, Saumya Pant, Arvind Singhal, and Yogita Sharma (in press, 2004). Catalyzing Social Reform through Participatory Folk Performances in Rural India. A chapter in Larry Frey and Kevin Carragee (Eds.) *Communication and Social Activism*. Cresskill, NJ: Hampton press.

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While the above three *Taru* qualitative reports are enclosed as independent documents, here we excerpt portions from each of these reports in the form of an elaborate executive summary.

Executive Summary of Qualitative Report #1

Citation: Arvind Singhal, Devendra Sharma, Michael J. Papa, & Kim Witte (2004). Air Cover and Ground Mobilization: Integrating Entertainment-Education Broadcasts with Community Listening and Service Delivery in India. A chapter in Arvind Singhal, Mike Cody, Everett M. Rogers, and Miguel Sabido (Editors) (in press, 2004). *Entertainment-Education and Social Change: History, Research, and Practice*. Mahwah, NJ: Lawrence Erlbaum Associates.

The present qualitative report (#1) argues that synergistic possibilities for social action can emerge when entertainment-education radio broadcasts are strategically integrated with community-based group listening and locally-available health care services. Social transformation was catalyzed when (1) All India Radio provided the entertainment-education "air cover" in the form of *Taru*, (2) *Taru* listening groups acted as informal organizing units for social deliberation and local action, and (3) Janani's rural health network provided the ground-based service delivery. Each component complemented the contribution of the other.

Our qualitative analysis suggests that that an entertainment-education (E-E) program can spark the process of social change by drawing listeners' attention to socially desirable behaviors (Papa et. al, 2000). When listeners develop parasocial relationships with the characters of an E-E program, they may be motivated to consider changes in their own behavior. E-E programs can stimulate peer conversations among listeners, which can create opportunities for collective efficacy to emerge as people consider new patterns of thought and behavior. However, existing power structures resist the process of social change, and people's own thinking is fraught with paradoxes and contradictions as they "negotiate" their actions with their intentions.

Parasocial Interaction With *Taru*

Parasocial relationships are the seemingly face-to-face interpersonal relationships which can develop between a viewer and a mass media personality (Horton & Wohl, 1956). Horton and Wohl (1956) argued that when a parasocial relationship is established, the media consumer appreciates the values and motives of the media character, often viewing him or her as a counselor, comforter, and model. Rubin and Perse (1987) argued that parasocial interaction consists of three audience dimensions: Cognitive, affective, and behavioral.

Cognitively-oriented parasocial interaction is the degree to which audience members pay careful attention to the characters in a media message and think about its educational content after their exposure (Papa et al., 2000; Sood & Rogers, 2000).

For example, in Village Kamtaul, RHP Shailendra Singh noted how listening to *Taru* motivated him to intervene in a delicate situation: "We have applied the learnings of *Taru* in real life. Just as Taru and Shashikant prevent a girl child marriage in the radio serial, we also stopped a child marriage from occurring in Kamtaul. We politely said that this was wrong, and concerned people came around and changed their decision" (personal interview, August 19, 2002).

Affectively-oriented parasocial interaction is the degree to which an audience member identifies with a particular media character, and believes that his/her interests are joined (Burke, 1945). The stronger the identification, the more likely that character's behavior will affect the audience member.

For example: Soni in Village Abirpur exemplified this identification: "I love Taru. She is so nice. I also like Shashikant. When Taru is sad, Shashikant makes her laugh. When Taru is sad, I am sad. When Mangla asks her to not see Shashikant, and Taru feels bad, I feel bad." Audience members view their favorite characters as close personal friends, and become emotionally upset when certain characters face difficult personal situations.

Behaviorally-oriented parasocial interaction is the degree to which individuals overtly react to media characters, for instance, by "talking" to these characters, or by conversing with other audience members about them. Such conversations may influence audience members' thinking about an educational issue and motivate them to change their behavior in a specific way.

For example, Usha Kumari, a college-going girl in Abirpur is indebted to *Taru* for making her strong and inspiring her to implement her dreams: "There are many moments when I feel that Taru is directly talking to me. Usually at night. She is telling me 'Usha you can follow your dreams.' I feel she [Taru] is like my elder sister….and giving me encouragement. I thank her for being with me" (personal conversation, September 4, 2002).

In summary, exposure to T*aru* led to parasocial interaction between certain audience members and characters in the soap opera. How did these parasocial relationships prompt peer conversations among listeners?

Social Learning Through Peer Conversations

Our data provides numerous examples of how *Taru* stimulated conversations among listeners, creating a social learning environment for social change.

For example: Soni Kumari, a member of the young women's listening club in Kamtaul Village noted: "Almost 50 percent of the girls in our High School [out of a total of 300] listen to *Taru*. In fact, we have even painted a wall in our school to promote the listening of *Taru*. Every Monday in School, during the break, we meet to discus about the previously broadcast episode."

Audience members can share their similar and different perceptions of the information presented in the media program. They can talk about considering or adopting the socially desirable behaviors that are highlighted in the media program. These interpersonal discussions create a social learning environment in which people learn from one another. Collective efficacy emerges when people share ideas about the social problems facing their system, and discuss ways of confronting resistance to their plans for social change.

Collective Efficacy Stimulated by *Taru*

Our data provided numerous examples of how *Taru* inspired collective efficacy and community action to solve social problems.

Fro example, in Abirpur Village, young female and male members of *Taru* listeners' groups, after seven months of discussion and deliberation, started a school for underprivileged children, inspired by the character of Neha in the radio serial. Some 50 children attend this school regularly, which meets six days a week, from 4 to 6 p.m. in the open air, under a tree near the Titly Center. Young women of 15 to 20 years of age teach these children. Young men helped convince the parents to send their children to school and help with the operational logistics. Establishing the school was a collective act of both young men and women in Abirpur. Such mixed-sex collaboration is highly uncommon in Indian villages. As Sunita Kumari noted: "Before listening to *Taru*, we were shy and uncomfortable in talking to boys. Now that we are in a group, we feel comfortable to talk to them, and we do so on an equal footing."

Non-Linearity of Social Change: Power, Resistance, and Paradoxical Behaviors

Our data provided numerous examples of how existing power structures in the villages can serve as a barrier to social change. Individuals or groups, who wish to

undertake a certain ameliorative action, often face resistance from social structures. For instance, in India, caste, gender, and class mediate the extent to which people can overcome restrictions and barriers to progress.

For example, both in Abirpur and Kamtaul villages, members of the young women's listeners' club criticized the caste bias of their elders, which prevented them from listening to *Taru* with other friends, who belonged to another caste. Initially, the young girls felt powerless to oppose these parochial traditions, however, soon they devised ways to subvert them. In Kamtaul, the young women agreed to individually hear the *Taru* episodes at home, and then later discuss them during school break. By August 2002, six months after *Taru's* broadcasts began, they felt efficacious enough to openly gather at the local Titly Center, or at someone's home, to listen collectively.

Paradox and contradiction are also an integral part of the process of social change (Papa et al., 2000). Since established patterns of thought and behavior are difficult to change, people often engage in an adjustment process until the new behavior patterns are fully internalized. For instance, Manoj Maharaj, RHP of Abirpur Village, talked at great length about how caste-based discrimination was on the ebb in Abirpur. However, in a casual conversation, Maharaj strongly supported other kinds of discrimination. When author Singhal asked him if Abirpur Village had any people living with AIDS, he said: "There are two AIDS patients in the neighboring village. And he [despite being the sole health provider in the area], will not touch them."

Conclusions

In this study, we learned that E-E programs can spark processes of individual and social change through the formation of parasocial relationships between audience members and media characters. Audience members consider changes in their own behavior based on what has worked or not worked for media characters. E-E programs can also initiate a process of social learning as audience members talk among themselves and consider behavior change at the individual and collective level. Some of this social learning may inspire collective action as audience members work together to improve community life (as illustrated by the newly-established open-air school in Village Abirpur).However, individual and social change is rarely a simple, linear process. Audience members may encounter powerful forces of resistance as they attempt to change power dynamics in a community.

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Executive Summary of Qualitative Report #2

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This qualitative report (#2) investigated the processes of social change initiated by an entertainment-education radio program in India, *Taru*, which lead to certain socially desirable effects in four villages in Bihar state. We discovered that a media program facilitates social change by stimulating the development of social capital in communities.

Social Capital

Putnam (1993) defines social capital as "features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions" (p.167). Kawachi, Kennedy, and Glass (1999) stated that social capital is "those features of social organization – such as the extent of interpersonal trust between citizens, norms of reciprocity, and density of civic associations – that facilitate cooperation for mutual benefit" (p. 1187).

The definition and sources of social capital are important to researchers to aid in finding the best way to measure a community's level of social capital. Interpersonal trust, generalized reciprocity, and dense networks of civic associations are some of the most common aspects of the concept that are looked at when studying a community. Trust is understood as the "willingness to take risks in a social context based on a sense of confidence that others will respond as expected and will act in mutually supportive ways, or at least that others do not intend harm" (Bullen & Onyx, 1998, p. 1). In reciprocal relationships, individuals provide on an informal basis, mutual services or acts to benefit the other, often at personal cost.

The level of social capital in a community may be an important component of the social change process; however. If there are high levels of trust in a community, people are more willing to take the risks often associated with change. When expectations of reciprocity exist, people know that efforts to help others will be matched, at some point, with equivalent acts of kindness. Finally, civic associations create relational bonds that facilitate people acting together in different contexts.

Social Capital: Communicative Processes and Outcomes

Our examination of the data from the four villages where *Taru* listening groups were established revealed many examples of social capital and provided insight into how social capital helps to both initiate and resist the process of social change. Here we examine the communicative dynamics of social capital by focusing on the formation of communication networks, the establishment of relationships based on trust, and the formation of civic associations. These dimensions of social capital helped to produce social change with respect to education, health, child marriage, and gender equality.

Education for Lower Caste Children

Sunita from Abirpur village provided us with an example of how social capital formation contributed to the development of a school for Dalit (scheduled caste) children in the community. She explained that one day she was talking with her sister Usha and they decided that it would be helpful to move the community forward if they started a school for poor children the way Neha did in *Taru*. They realized that it was important to offer the instruction free of charge because the parents of Dalit children cannot afford tuition. Although other community members thought their idea was a good one, no one offered to help at first so Sunita and Usha started the school on their own (Personal Interview, March 6, 2003). This example shows that social capital can be powerful at even the basic interpersonal level within families (Dika & Singh, 2002).

The school did not start without problems; however. Some people in the community criticized Sunita and Usha for starting a school out of greed. To counter this criticism they had to clarify that they were not accepting money for tuition. Some were still not satisfied by this response. The argument posed by other critics was: No one works without receiving a benefit, so you must be receiving something. Somewhat paradoxically, even some of the poor families who were sending their children to the school free of charge withdrew their children on the suspicion that Sunita and Usha were being paid. Fortunately, the school stayed open with as many as 40 children in attendance on any given day. Sunita also believes that by keeping the school open many in the community have learned an important lesson. You can offer to help others without receiving any direct economic benefit (Personal Interview, March 6, 2003). Rather, you help others in your community because when you help others move forward, everyone moves forward thus providing a form of reciprocity (Kawachi, Kennedy & Glass, 1999; Kawachi, Kennedy & Lochner, 1997). Clearly, this is a vital form of social capital in action.

Community Health

In order for social change to occur, relationships of trust need to be established between people (Bellah, et al., 1985; Coleman, 1988). This is particularly important with respect to personal issues pertaining to health (Kawachi, Kennedy & Glass, 1999; Lomas, 1998). Manoj Maharaj the RHP from Abirpur explains that *Taru* has encouraged girls and women to be more proactive with respect to issues of health and hygiene. He has also encouraged women in his village and in surrounding villages to share their concerns and questions with him. In response to his reaching out he has recently noticed an increase in the number of women who seek his help. Specifically, he noted that a number of women have started to talk with him and seek assistance concerning problems they face with their monthly menstrual cycle. At least a dozen girls from Abirpur and equal number from surrounding villages have discussed their cycles with him. In all his years of practice this has never occurred before. Some have asked him for medicine associated with abdominal cramps, others have requested ready made napkins that are cleaner than the pieces of torn cloth typically used by women. Manoj attributes this change in behavior to the trusting relationship he has formed with women in Abirpur and the surrounding community but he also recognizes that this trust could not have been established were it not for the messages embedded in *Taru* (Personal Interview, March 6, 2003).

Child Marriage

Kumkum Kumari of Abirpur established contacts with Dalits based on the storyline of *Taru*, which encouraged the formation of friendships across caste lines. Once friendly relations are established between people it becomes possible for people to influence one another in meaningful ways (Caulkins & Peters, 2002). Kumkum explained that he found out one Dalit family was about to marry off their child who was not yet of legal age. Importantly, he had already established a respectful relationship with the young girl's father. The first time he visited this family's home; the father put a piece of cloth on the chair before he sat down. Kumkum said, "No I will sit exactly the same way that you sit. There is no difference between us. Everybody has the same blood. God makes everybody the same way." For this Dalit family it was a unique event in their lives. A person of a higher caste treated them with respect. Sometime after this first encounter Kumkum found out that this family was about to marry off their under age daughter. He said to the father, "What you are doing is not right. You are only doing this for personal benefit so you can end your financial responsibility to care for your child. What sort of life will your daughter have if she is married so young" (Personal Interview, March 5, 2003). This conversation could never have occurred if the friendship had not been established first and the outcome was significant. The child marriage was stopped.

Gender Equality

Forming communication networks across genders builds social capital (Portes, 1998) and creates the potential for social change. Indeed, the empowerment of women becomes possible only when men and women are able to converse with one another about a broad range of topics. In Abirpur village it became clear to the members of our research team that the girls are much more vocal and bold than in most other rural Indian villages. A number of our interviewees explained that prior to *Taru* they never used to sit with boys. Now they not only sit with boys in public areas of the village, they also talk about many issues including socially controversial topics such as gender equality, caste, dowry, and family planning (Focus Group Interview, July 26, 2003). The emergence of girls as vocal advocates for change is important on two fronts. First, change becomes possible when people begin to express their ideas in public. Second, change involving women's empowerment and gender roles can occur only when men and women talk with one another thereby initiating the process of role negotiation (Sanders, 2002).

Social Capital: The Simultaneity of Support and Resistance

When social capital is built between different groups it offers the potential for community building activities, but there are also limits to what can be accomplished. Mukesh from Abirpur explains that in his community there are no longer the clear divisions between people based on caste. People from different castes sit together and talk and they share things with each other. When it comes to inter-caste marriage; however, the line is drawn. "We can't go for inter-caste marriage. We can't think of any love story, like is going on between Shashikant and Taru" [two characters from the radio soap opera] (Personal Interview, July 25, 2003, p. 11). This example shows one of the negative aspects of social capital. Although social capital may exist within each caste, there are limits to building social capital between castes. This is due to the fact that, at some level, each caste views the other as separate or as "the other" (Scheufele & Shah, 2002).

The process of forming social capital is not simple. Often there are forces of both support and resistance that people confront. Kumkum from Abirpur explained to us that when she became part of a *Taru* Listeners' Club her brothers protested. They told her, "If you write, we will tear out the pages. When you got a watch you didn't give it to us. When you got a radio, you didn't give it to us." Kumkum responded by saying that even if they tear the pages, she will continue to write. Her mother was unsupportive as well; arguing that there was no purpose in Kumkum writing down her thoughts after listening to *Taru*. Her mother also told her to not talk to boys because other people in the

community would talk. One way of interpreting Kumkum's family interactions is that social capital was present but it was in the form of restricting her individual freedom (Scheufele & Shah, 2002).

Despite the resistance that she faced at home, Kumkum received support from her friends. Soni, one of her closest friends, told her to listen to *Taru* and write her notes secretly, out of view of others. Kumkum did as Soni recommended and she was able to continue her participation in the listeners' club (Personal Interview, September 2, 2002, p. 18). Without the social support of her friend it is unlikely that Kumkum would have continued her participation in this community-building club.

Negative Social Capital

One of Putnam's (2000) recommendations for social capital formation is encouraging participation in team sports. Sports may not always promote positive civic engagement; however. Consider the formation of the *Taru* Cricket Club in Abirpur for example. When teenage boys and young men participate in cricket matches they display camaraderie and cooperation, behaviors that can spur positive community development. In this village the cricket club had a dysfunctional effect on social change as well. Soni of Abirpur explains that young women and men helped to start a village school for poor children. The school was growing in size and popularity until the men became more interested in playing cricket than in teaching in the school. They slowly started drifting away from the school; showing up to teach less and less. A meeting was held to discuss this problem and the men agreed to teach more often. Unfortunately, they only showed up to teach one or two days a week, spending most of their free time playing cricket (Focus Group Interview, March 4, 2003). These actions are consistent with Dyreson (2001) who argues that sport can "build and destroy community in the same moment. It can unite and segregate in the same instant" (p. 26). Such is the case in Abirpur where the cricket club helped to unify the men while at the same time it separated them from their work with the women in bringing about the improvement of the community through the village school.

Conclusions

Behavior change in response to media exposure may be facilitated by the formation and existence of social capital in communities. In this study we saw social capital displayed through the development of: (a) relationships based on trust, (b) norms of reciprocity, and (c) communication networks. The existence of social capital in the four villages we examined contributed to educational programs for lower caste children, the improvement of community health, the stopping of a number of child marriages, and the promotion of gender equality.

We also discovered, however, that social capital can initiate forces of both support and resistance toward social change. Furthermore, negative social capital may contribute to excluding certain people from participation in pro-social action, restricting individual freedom, placing excessive demands on group members, and downward leveling norms.

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Executive Summary of Qualitative Report #3

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This qualitative report (#3) analyzes the social activism dimensions of the participatory theater workshops that were held with 50 members of *Taru* listening clubs, hailing from Abirpur Village in Vaishali District and Kamtaul, Madhopur, and Chandrahatti Villages in Bihar's Muzaffarpur District.

The week-long theater workshop, held in July, 2003, was designed to empower each group to develop participatory theatrical performances to capture (a) their personal and group listening experiences in relation to *Taru*, and (b) their concomitant attempts to secure political and social reform in their respective villages. These folk performances were then staged for village members in an attempt to bring the personal narratives of the participants into the realm of public discourse.

Theoretical Framing

The dialogic theorizing of Brazilian educator Paulo Freire (1970) and its application by Augusto Boal (1979) in the global movement called the "Theater of the Oppressed" (TO) served as the theoretical backdrop against which the current interventions were crafted. Underscoring Freire and Boal's work is the assumption that the greatest challenge of activists is to understand, appreciate, and respect the knowledge of people's lived experiences as expressed in their vernacular. Freire, best known for his classic book *Pedagogy of the Oppressed* (1970), argued that most political, educational, and communication interventions fail because they are designed by "technocrats" who seldom take into account the perspectives of those to whom programs are directed. No intervention that is truly empowering can remain distant from those disenfranchised. Like Freire, we believe that the authentic potential of activism begins with the lived experiences of involved participants.

Throughout our participatory theater workshops and their public enactment, we were conscious of the potential and tendency to "prescribe" or impose our activist agenda within the local community. Rather than penetrating the cultural context of our participants irrespective of their potentialities, we conceptualized our role as working *with* (not *for*) participants to organize efforts to resist oppressive ideologies, patterns, and practices. Sensitized to the importance of dialogical pedagogy/intervention, our primary goal was to create space in the form of participatory theater for subjects to *name* their

world in order to transform it. Far from dislodging the oppressed from one reality to "bind" them to another, we sought to make it possible for participants to narrate their experiences, create alternative scripts for how to enact public and private roles, and rehearse such "counter-stories" (Nelson, 2001) on a public platform.

Boal (1979) argues that using the tools of theater (e.g., character development and emplotment), participants can acquire new ways of knowing reality and sharing that knowledge. Boal's TO is a form of "rehearsal theater" for people who want to give voice to their experiences and discover new ways of fighting against oppression in their daily lives. By rehearsing, and potentially rejecting, solutions to articulated problems, participants have opportunities to "try out" counter-narratives. The theatrical act, by itself, is a conscious intervention, a rehearsal for social action based on a collective analysis of shared problems of oppression. Participatory theater, thus, potentially embodies a process of participation that is empowering both as a *means* (for involved agents) and as an *end* (in terms of structural outcomes that are generated).

Participatory Theater Workshops and Performances

The participatory theater workshops in Bihar were facilitated over a 3-day period (July 24-26, 2003) from 9:00 a.m. to 5:00 p.m. in the village of Kamtaul. The public performances of the subsequent plays were enacted in all four villages. Fifty members of *Taru* listening clubs from across the four villages participated in the participatory theater workshops and performances. Participants ranged in age from 9-27 years old, with 25 female and 25 male participants.

During the first 3 days of the workshop, participants developed skills in script writing, character development, costume and set design, voice projection and body control, and acting and singing. Participants introduced themselves by telling a story about their lives—a story situated in the context of their families and communities. Although a few participants were initially reluctant to share stories (girls were shier than boys) and/or had difficulty in understanding what counted as a "story," a rich collage of narratives quickly emerged within each group. Groups were urged to identify common themes among their stories and to start developing a "meta-story" that could be used to develop a script.

Participants create performances centering around self-identified social issues, using their own vernacular, personal stories, and master narratives of their communities. In sum, the "means of production" of the theater workshops and subsequent performances rested primarily with the participants. All aspects of performance—from role development to preparation of the stage—were co-constructed by participants.

During the workshops, participants created three separate plays. The negotiation of emplotment was not an easy task for all the groups. For example, one of the groups was constructing a script on the problems of child marriage and dowry. The following excerpt from Devendra Sharma's fieldnotes illustrates the democratic evolution of script construction and captures Boal's (1979) original vision of encouraging traditional "spectators" to actively wrestle with the potentialities and pitfalls of diverse solutions:

> Participants evolved the scripts after countless revisions of drafts and after much discussion amongst group members. One specific incident is illustrative of this process. The ending of the play on dowry and child marriage was not perceived as realistic by many group members. In the initial plot, while the wedding was underway, the father of the groom was demanding dowry from the bride's family, and the groom was refusing to accept dowry. For some young women, this solution seemed unrealistic. For hours, the whole group debated about how the play should end. After many revisions, a solution was reached that was agreeable to all. An additional scene was added between the groom and his friends prior to the wedding to establish the groom's character as idealistic and sympathetic towards women. Further, the wedding scene was modified. A confrontation occurs between the father and son at the beginning of the wedding in which the father ultimately gives in to the son's wishes protect the prestige of his family which would surely be damaged if the son walked away from the alter. The rehearsals for the play started after a whole day of discussion!

The 3-day workshops were followed by 2 days of public performances. No professional actors were used in the performances; instead, participants served as cast members as well as directors and set managers. Performances were promoted in advance through word-of-mouth channels, capitalizing on the contacts of the local rural health practitioners (RHPs), as well as family members and friends of the workshop participants. Prior to the start of the performances, live folk and popular songs were played on the loudspeaker to generate attention among villagers. Each play was publicly performed in each of the four villages for audiences that ranged in numbers from 300 to 500 people. Interspersed with the plays were a folk dance, some songs, and a poem—all initiated and constructed by the participants. In each village, we situated the performance site in an open area that was easily accessible to villagers.

Theoretical and Practical Implications

We observed that agents of the participatory theater interventions in Bihar developed counter-narratives that resisted dominant community(s) identities and created social networks characterized by social capital. At the same time, we witnessed the synergistic possibilities that can emerge from multi-layered, participatory E-E initiatives.

Collectively, these outcomes illustrate the theoretical and practical implications of our work and its heuristic potential.

Counter-Narratives

Narrative theorizing provides a particularly fruitful framework from which to address the discursive understandings through which subjectivities/identities are constructed (Somers, 1994). Individuals orient to their life worlds by way of diverse stocks of knowledge that are social in origin. Participatory theater serves as a particularly rich site to explore the (re)construction of identity (individual and communal) through *counter-narratives*, which Nelson (2001) described as emplotments that discursively reconfigure disempowering elements of the existing social order as articulated by and based on lived experiences of individuals.

We witnessed that our theater participants discovered a vocabulary for composing their own personal stories, were able to connect their stories to other participants' narratives, and spun out alternatives to the dominant scripts of their lives. Participants' scripts recognized master narratives, what Foucault (1973) referred to as cultural "truths" based on "global" or "unified" knowledge that often serve to sustain the status quo by involving individuals in its service (e.g., making them "docile bodies" or helpless personae caught in the problem). For instance, the scripts recognized the powerful forces of dowry and the caste system as impinging on their daily routines and relationships. Concomitantly, through the participatory theater workshops and performances, we glimpsed story threads of resistance to dominant narratives based, in part, on what Foucault termed "local popular" or "indigenous" knowledge.

In true Frierian (1970) spirit, the interventions allowed workshop participants to engage in narrativizing about their concrete situations and provided a public platform through which to *tell* such narratives. By telling our stories, we legitimize our experiences, narratize alternatives to dominant scenarios, strategize our roles in emplotments, and prepare for resistance to change. Not to "tell" is to limit the empowering possibilities of our narrative capabilities. The witnessing of narratives on the part of audience members can also lead to *consientizacao*. One audience member of the performances shared, "It [the play] motivates the villagers to *think* on dowry issues."

Social Networks

Strong social networks were created among participants through this participatory theater project, networks that have remained intact and grown stronger after we left Bihar. The social capital developed through these networks holds promise for ongoing grassroots efforts directed toward social change. Putnam (2000) referred to *social capital* as

connections among individuals, and the norms of reciprocity and trustworthiness that arise within them, that facilitate coordination and cooperation for mutual benefit.

An important element of social capital, albeit rarely articulated or theorized, is friendship. Rawlins's (1992) treatise illustrated how friendships, as cultural categories and sources of imagery about social being, are central to the challenges, satisfactions, and dramas of social configurations during one's life course. "At any juncture," urged Rawlins, "we can celebrate or critique friendship for its role in shaping an individual's immediate experiences of self, others, and society in living life's configured and interpenetrated moments to their fullest" (p. 273). In our intervention site, many theater participants emphasized the value of friendships formed through the workshops and performances. One participant shared:

> I am glad to see the people who did this project and some of my friends who had come from other places. I didn't know them earlier but during the program we become good friends. I wish to meet them again.

Another participant said:

> From the very beginning, I felt comfortable in Kamtaul. I knew we were going to meet strangers, but I trusted you to take us somewhere safe and good for our sisters. Seeing the other participants, they looked like us and behaved like us . . . they were equally lost (laughter). But I know that now we have a relationship forever. We will definitely invite them to our village and introduce them to our family.

Multi-Layered and Participatory Entertainment-Education Initiatives

The interventions highlighted in this report illustrate how entertainment-education (E-E) scholarship and practice can benefit by consciously incorporating dialogic, participatory processes in designing, producing, and assessing social change interventions. E-E initiatives typically rely on mass media vehicles to tackle issues of development and social change (Singhal, 2004), leaving little room for the dynamic dialogic pedagogy espoused by Freire (1970) and Boal (1979). The participatory process of creating and implementing public performances among members of *Taru* listening clubs illustrates how synergistic possibilities for social action emerge when E-E radio broadcasts are strategically integrated with community-based group listening and participatory theatre. The use of folk theater, which by its nature facilitates intense interpersonal communication between performers and audience members, coupled with the radio serial and listener groups, represents a truly "multi-layered" entertainment-communication intervention.

Many participants described the benefits of multi-layered E-E interventions with participatory components. On young girl shared:

> After listening to *Taru* and having you here in the village, I feel confident to fight and not let parents come under any pressure. I have seen Usha didi and how she has resisted pressure from community so I am quite sure I can do so too.

Conclusions

Our participatory theater interventions represent as ensemble of stories told by participants about themselves; narratives inevitably marked by and articulations of wider economic, political, and social structures. The work of Freire (1970) and Boal (1979) transforms a once-understood aesthetic experience (i.e., entertainment) into a medium for engaging ourselves politically. By providing space for participants to performatively engage in sense making about their lived experiences, our communication intervention revealed intersections between deeply personal and autobiographical accounts, broader hegemonic and cultural narratives, and counter-narratives—alternative visions for individual and community(s) identities.

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Endnotes

[i] On some occasions the tracking exposure surveys occurred after 10 weeks instead of two months, hence the jump from June (time of second tracking survey) to September (time of the third tracking survey) in 2002.

[ii] On some occasions the tracking exposure surveys occurred after 10 weeks instead of two months, hence the jump from June (time of second tracking survey) to September (time of the third tracking survey) in 2002.

[iii] After May, 2002 onwards, *Taru* began its year-long broadasts in the other Hindi-speaking States of Rajasthan, Uttar Pradesh, Uttaranchal, Himachal Pradesh, Delhi, and Haryana.

[iv] Janani following the following schedule in collecting the service delivery data from these four villages. Sales figures on condoms, pills, and pregnancy dipsticks were initially gathered for the first four months of *Taru's* broadcasts – from February, 2002 to May 2002, then for the next two months of Taru's broadcasts – from June to July, 2002, and then on a monthly basis from August, 2002 to January, 2003. To compute the baseline figures for condoms, pills, and pregnancy dipsticks in February, 2002, we took the total sales over the first four months (February to May, 2002) and divided by four. Given the general trend of rising sales of condoms, pills, and pregnancy dipsticks as *Taru*'s broadcasts unfolded, these mean-average baseline sales figures err, if anything, on the more conservative side to assess effects.

[v] We report the sales in actual number of pieces (for condoms and pregnancy dipsticks) or cycles (for pills), as well as compute the percentage increase in sales of these services over the time period that *Taru* was broadcast. In some cases, the baseline numbers are rather low (for example, one or two pieces, which may make the percentage increase seem quite high). Hence we suggest that readers should eye-ball the data for general sales trends.