

**Studying Entertainment-Education Effects:
Going Beyond the Usual**

by

Arvind Singhal, Ph.D.
Professor and Presidential Research Scholar
Ohio University
Athens, OH 45701, USA
Email: Singhal@ohio.edu
Phone: 740-593-4903
Fax: 740-593-4810

A paper presented at the workshop on *Best Practices on Promoting Gender Equality through Media Programs*, Population Media Center, Burlington, Vermont, November 17 to 19, 2005, and for inclusion in a manual co-edited by K. Barker and M. Sabido of the same title.

Studying Entertainment-Education Effects: Going Beyond the Usual¹

“Not all things countable counts”.

Albert Einstein (<http://whistler.thetechvision.com/quotes/1>.)

Over the past couple of decades, the proliferation in the practice of entertainment-education (E-E) has been paralleled by improvements in the research tools utilized to evaluate the effects of E-E projects (Singhal & Rogers, 2002). During the 1980s and 1990s, the rigor of these research methodologies progressed from after-only surveys of audience individuals, to field experiments using multiple measurements of entertainment-education effects. In the late 1990s and early 2000s, scholars, in addition to the aforementioned quantitative methods, also began using more qualitative methods like analysis of audience letters, semiotic analysis of content codes, and more participatory methodologies – such as participatory photography, sketching, and theater -- in order to better understand the process through which entertainment-education has its effects.

The purpose of the present paper is to provide an overview of (1) the commonly-employed (usual) quantitative research methodologies in monitoring and evaluating entertainment-education programs, and (2) certain novel qualitative and participatory research methodologies that can provide rich insights about how audience members engage with entertainment-education.

Commonly Used Quantitative Methods

There are certain distinctive aspects of E-E which influence the research methodologies utilized by communication scholars to study the effects of entertainment-education. As Douglas Storey (1998) of Johns Hopkins University noted, "Entertainment-education is a point of engagement, a site of discourse, not just another message." This perspective implies that exposure to entertainment-education not only may have direct effects on an audience individual, but that entertainment-education, more importantly, causes indirect effects on behavior change by stimulating the individual to talk with family members, peers, and community members -- over a period of time -- about the educational issues embedded in the entertainment message. These interpersonal discussions may lead to dialogue, decisions, and collective actions, perhaps influencing the audience's external environment to help create the necessary conditions for social change at the system level. Thus trying to monitor and assess the effects of entertainment-education programs -- at the individual, collective, and system level – call for different methodological choices. Each method has their strengths and weaknesses; so when possible mixed-method designs must be employed.

Most of the commonly-employed research methodologies for assessing E-E effects – to especially discern individual level changes -- include the following: (1) after-only-survey of effects, (2) before-after measurement effects, (3) interrupted time-series designs, and (4) field experiments.

After-Only Surveys of Effects

The present author was involved in investigating the effects of *Hum Log*, a television soap opera about gender equality, family planning, and related issues in India that was broadcast in 1984-1985. Unfortunately, research funding to study the effects of this important entertainment-education program (it was the first international transfer of Miguel Sabido's entertainment-education strategy) did not become available until after its broadcasts were completed. Hence we could only conduct an after-only survey of audience individuals. We established that the degree of exposure to *Hum Log* was related to higher levels of knowledge and attitudes toward gender equality (the main educational issue in *Hum Log*). But we could not eliminate the possibility that this exposure/effects relationship was because audience individuals who already had higher knowledge and more favorable attitudes were more likely to watch the television soap opera. The time-order of these independent and dependent variables could not be determined with after-only data.

An after-only study cannot tell us much about the effects of entertainment-education, other than that levels of the effects variables are positively related to exposure. The time-order of these exposure and effects variable can not be established by an after-only study, nor can alternative explanations of the E-E effects be ruled out. *In comparison to alternatives, by itself, the after-only research design is a relatively weak means of investigating E-E effects.*

Before-After Measurements of Effects

One important advantage of before-after measurements, such as by means of surveys, is that they allow the investigator to calculate change scores on the effects variables. Thus a sample of individuals exposed to an E-E program are personally interviewed in a benchmark and a follow-up survey as to their knowledge, attitude, and practice of, say, family planning methods. A change score for each of these effects variables for each individual can then be calculated, in order to determine whether such change scores are related to the degree of exposure to the entertainment-education intervention.

An example of a before-after evaluation research design is the Valente et al. (1994) study of the effects of *Jakube Farra* (Wise Man), an entertainment-education radio drama in The Gambia, an Islamic nation in West Africa. Prior to the daily broadcasting of 39 episodes of this radio show in 1991, 19 percent of survey respondents were adopters of family planning methods. Nine months later, 35 percent of listeners had adopted, an increase of 16 percentage points.

Unfortunately, before-after measurements cannot eliminate the possibility that the measured effects result from contemporaneous changes, that is, from other communication activities than the entertainment-education intervention of study. For example, some of the increased rate of adoption of family planning methods thought to be due to *Fakube Jarra* may have occurred due to individuals' exposure to other communication activities about family planning in The Gambia.² The most appropriate means of eliminating these contemporaneous changes is the field experiment, although the interrupted time-series can help shed light on the unique changes that are due to an entertainment-education intervention.

Interrupted Time-Series

An alternative to the field experimental design (discussed later) is the interrupted time-series, in which data about, say, the effects of an entertainment-education project on the number of new adopters of family planning are gathered for a number of time periods (typically months): (1) prior to the intervention, (2) during the intervention, and (3) for some time after the intervention. One would expect the effects indicator (such as the number of family planning adopters) to increase during the intervention and immediately afterwards, and eventually to return to the original rate of increase, as indeed occurred in the case of the broadcasts of the E-E television program *In a Lighter Mood* in Enugu Nigeria (Piotrow et al., 1990).

The weakness of the usual interrupted time-series design is also one of its main advantages: There is no control group. This absence of a control solves the ethical problem of withholding the possible benefits of the E-E intervention to individuals in the control area. However, the effects of contemporaneous changes cannot be removed with the certainty that they are in a field experiment, as the interrupted time-series does not have a comparison group that receives all other communication influences except the entertainment-education. For instance, at the same time that the broadcasts of *In a Lighter Mood* began in eastern Nigeria, the health clinic in Enugu (that provided the monthly data on the number of family planning adopters) increased its clinic hours from three to six days per week! Is the sharp increase in the number of adopters due to the entertainment-education broadcasts, or to greater clinic accessibility? We do not know.

Field Experiments

Few field experiments have been conducted to evaluate the effects of entertainment-education programs. One of the first field experimental studies of entertainment-education at the national level was the investigation of the E-E radio soap opera, *Twende na Wakati*, in Tanzania. Field experiment designs were also implemented to study the effects of E-E initiatives in China (for the TV program *Baixing*) and India (for the radio program *Tinka Tinka Sukh*) by the present author and his colleagues, however, due to low numbers of listeners found in the treatment areas,

not much could be said about the effect of the intervention on individual knowledge, attitudes, and practice (Singhal & Rogers, 1999).

The Tanzania study was a quasi-experiment in that the treatment and the control conditions were not randomly assigned to the eight radio broadcasting regions of Tanzania. The assignment of the Dodoma broadcasting area to control was opportunistic, in that this region was cutting away from the national signal of Radio Tanzania for two hours of local programs every evening at 5:00 p.m. By broadcasting *Twende na Wakati* at 6:30 p.m. twice weekly, the Dodoma region became a "control," or, more accurately, a "comparison" (these terms are often used interchangeably, although some scholars prefer "comparison" in field experiments because "control" might imply that *no* communication activities are underway there and that no contamination exists).

Why is the random assignment of treatment and comparison conditions important in removing the effects of all extraneous variables in a true experiment? Random assignment removes all such unwanted effects, whether these variables are measured by the investigators or not. If the researchers do not have the power to randomly assign the treatment and comparison conditions, then they must determine whether or not the two areas are matched on the dependent (KAP) variables, and perhaps on independent variables expected to be related to the KAP variables. The Dodoma area was approximately similar to the treatment area in Tanzania, although its population had somewhat higher initial levels of K, A, and P.

The unique advantage of a field experiment is that it can remove the effects of all contemporaneous changes from the treatment effects. This advantage can be gained, of course, only if logistical and other problems can be anticipated and their effects removed. For example, two percent of the respondents in the Dodoma comparison area, who supposedly did not receive broadcasts of the radio soap opera from 1993 to 1995, somehow managed to listen to the broadcasts, presumably on shortwave radio receivers (Rogers et al., 1999). While this level of experimental contamination did not pose a serious threat to the validity of the field experiment, it suggests that an investigator never has complete control over the respondents' behavior. A realistic goal for a field experimenter is to minimize the contamination and other logistical threats to experimental design.

One important reason why there are not more field experiments on the effects of entertainment-education on family planning adoption, HIV prevention, etc. is due to ethical problems. For example, the broadcasts of *Twende na Wakati* were blocked for two years (1993-1995) from the 2.4 million people living in the Dodoma comparison area who were not able to listen to the radio soap opera. Half of these people were adults, and half of the adults would have listened to the radio soap opera, so about 600,000 people were denied access to the broadcasts of *Twende na Wakati*. They were more likely to have had unwanted children (because of not adopting family planning methods) and to have contracted HIV/AIDS (because of not adopting HIV prevention methods).³ The radio soap opera was broadcast in the Dodoma region for 3.5

years after mid-1995, where it had similar effects, with a two-year lag behind the 1993-1995 treatment area in Tanzania. These similar (but lagged) effects represent strong evidence of entertainment-education effects because they were reproduced in the former control area (Rogers et al., 1999).

A field experimental design requires that the researcher has a high degree of control over the communication treatment. Seldom is this the case, which is one reason why there are so few field experiments on entertainment-education, or, more generally, in any type of communication research. In the Tanzania Project, Radio Tanzania officials understandably wanted to broadcast *Twende na Wakati*, their most popular program, from all of their stations, including Dodoma. They agreed not to do so because they were convinced (in 1993) by the University of New Mexico communication scholars of the scientific value of a field experiment with a control area. Officials in Radio Tanzania and the Tanzania Ministry of health signed agreements about carrying out the field experiment, which was a type of informed consent. Obtaining such consent from all of the individuals in the treatment and comparison areas was impossible. Although this research design carried disadvantages for the radio system, and for the people residing in the control area, a field experiment promised to provide relatively definitive evidence of the effects of entertainment-education. At the time that the Tanzania Project was designed in 1993, officials in the UNFPA, Population Communications International, and the government of Tanzania, as well as the University of New Mexico researchers, felt that such evidence was much needed. So the ultimate beneficiaries of the Tanzania experimental design are policy-makers, and the populations that they lead, in other nations, that learn from the Tanzanian findings.

Problems with the ethics of control and with gaining permission to conduct a field experiment are avoided in the interrupted time-series, as explained previously, because there is no control group in the usual sense. The treatment intervention (an entertainment-education program in the present case) is not withheld from anyone.

Novel Qualitative and Participatory Methodologies

Some exciting, novel, and low-cost qualitative and participatory research methodologies for assessing E-E effects include the following: (1) analysis of audience letters, (2) semiotic analysis of content codes, (3) participatory photography, and (4) participatory sketching.

Analysis of Letters

Entertainment-education radio and television programs in India attract a huge number of audience letters. An estimated 400,000 letters were written to *Hum Log*, the television soap opera broadcast in 1984-1985, for example, and 150,000 to the 1996-1997 radio soap opera *Tinka Tinka Sukh*. This outpouring of letters was encouraged in the epilogues of these two entertainment-education soap operas, by inviting audience members to write and by providing

the address to which letters should be addressed. These audience letters did more than express admiration for the broadcasts (Singhal & Rogers, 1988; 1989). Most of the letters (1) commented on the characters and the storyline of the program, often suggesting future directions for the storyline, and (2) provided examples of how entertainment-education has affected the letter-writers' lives (Singhal & Rogers, 1988; 1989; Sood & Rogers, 1996). For example, one letter-writer to *Hum Log* explained that he had organized several hundred people in his small city to sign organ donation pledge cards, in response to a television episode in which a positive role-model received an eye transplant.

Letters from audience individuals can provide a rich type of data for analysis. For example, Singhal and Rogers (1989) obtained 20,000 of the viewers' letters mailed to *Hum Log*, which had been left on a rooftop in Delhi in two large mailbags. The scholars selected a random sample of 500 of these letters for content analysis. Further, a mailed questionnaire then sent to these viewers by Singhal and Rogers (1989) secured an 92 percent rate of response, suggesting that these respondents had a high degree of parasocial interaction (or affective involvement) (1) with the *Hum Log* characters (to which about half of the 400,000 letters were addressed), and (2) with the famous Indian film actor (Ashok Kumar) who delivered the epilogues. The analysis of the *Hum Log* letters was important, in that it represented an early attempt by communication scholars to study parasocial interaction by highly-involved audience individuals with an entertainment-education program.⁴

Letters from audience members can provide a low-cost and extremely valuable type of data for qualitative analysis of the effects of entertainment-education (Law & Singhal, 1998). Letters represent highly-detailed personalized narratives and are unbiased self-reports, as the letter-writers are usually not aware of the general research design. The letters can also be rich in local idioms and metaphors and provide input for the program's melodramatic plot. However, one should never forget that the individuals who send letters to an entertainment-education program are highly untypical audience individuals. Analyses of letter-writers show that many are young (often teenagers), who are well-educated (many are students), and very highly involved with the entertainment-education program. Nevertheless, their letters, in part because of these untypical characteristics of the writers, provide insight into the process through which individuals are influenced by entertainment-education.

The nature of entertainment-education seems to attract large numbers of letters from audience members, perhaps because such programs are highly involving for many individuals. But not all entertainment-education soap operas attract an outpouring of audience letters. For example, only several hundred letters were received by Radio Tanzania over the five years of broadcasts of *Twende na Wakati*, presumably because the cost of postage (35 cents U.S.) was more than many people in Tanzania could afford.

Semiotic Analysis of Content Codes

Semiotic analysis is one type of qualitative content analysis. Anjali Ram (1993), a communication scholar from India then studying at Ohio University, analyzed the text of selected episodes of the Indian television soap opera *Hum Raahi* (Co-Travelers) broadcast in 1992-1993. The purpose of *Hum Raahi* was to promote a more equal status for women, through gaining formal education and economic independence (Engineer, 1992). A more subtle purpose was to promote smaller family size norms through opposition to child marriage, female foeticide, and preference for male children. *Hum Raahi* commanded audience ratings of up to 78 percent in Hindi-speaking North India, which represented an audience of over 100 million people (Rogers et al., 1994).

Ram's (1993) semiotic analysis included (1) an analysis of the garment, proxemic (spatial), and kinesic (body language) codes that positioned women in *Hum Raahi*, based on an analysis of the first 26 episodes of *Hum Raahi*, and (2) in-depth interviews with female viewers of *Hum Raahi*, conducted in 1992 in Pune, India. The garment codes in *Hum Raahi* provide useful insights about how women characters in the soap opera were positioned. For instance, garment codes positioned Manorama and Prema as opposites in terms of gender equality (Ram, 1993). Manorama, the all-suffering mother, usually covered her head with her sari. In the presence of men, she pulled her sari even more closely around her head to cover her face. This garment code "reinforced her status as a passive, self-effacing, subjugated woman" (Ram, 1993, p. 58). On the other hand, Prema, an independent career woman and a positive role-model for female equality, did not use her sari to cover her head or shoulders. Instead, she pinned her sari across her left shoulder, signifying that she rejected the "ritual of gender subordination" (Ram, 1993, p. 58).

Proxemics is another dimension of non-verbal communication, focusing on how space affects communication behavior (Hall, 1966). Proxemic codes convey power, distance, hierarchy, intimacy, and other factors (Ram, 1993). For instance, in the first episode of *Hum Raahi*, Manorama was shown cooking in a smoke-filled kitchen, sighing and coughing in the absence of adequate ventilation. The proxemic codes in Manorama's kitchen, which represented a "gendered space", reinforced her plight as the "all-suffering oppressed mother" (Ram, 1993, p. 63). Men were only very rarely shown in the kitchen in *Hum Raahi*. The text of the entertainment-education soap opera thus helped to maintain the dominance of patriarchal social structures (Ram, 1993).

Kinesics is body language, another type of non-verbal communication indicated by gestures and behaviors (Birdwhistell, 1952). Ram (1993, p. 69-70) argued that in *Hum Raahi* the village gossip, Devaki, was characterized by kinesic codes that signified "manipulation and seduction": She rolled her eyes, tossed her head loosely, gyrated her shoulders, let her sari's *pallav* (the part of the sari that covers the head) fall, chewed beetle leaves (which lends a deep red color to the teeth and mouth), and fluttered her eyelids. Further, Devaki was often depicted talking on a mobile telephone, which was a status symbol at the time of the *Hum Raahi* broadcasts in the early 1990s.

Manorama, on the other hand, exhibited kinesic behavior that connoted "passivity and subjugation" (Ram, 1993, p. 70): Her head was bowed and her face was covered with her sari's *pallav*. She walked in jerky, nervous steps, talked softly, and avoided direct eye contact with others. Her body language conveyed subservience.

Anjali Ram also conducted several in-depth interviews with female viewers of *Hum Raahi* in India, in order to gauge their perceptions of gender portrayal in the soap opera. She found:

1. Respondents felt that *Hum Raahi* portrayed woman as being against other woman, especially by depicting the anti-woman stance of Devaki (Ram, 1993).

2. Respondents felt that *Hum Raahi* portrayed "the manipulative woman versus the women liberationist" (Ram, 1993). While Devaki was viewed as someone who had "men dance around her", Prema was viewed as being "always against men" (Ram, 1993).

3. Respondents felt that *Hum Raahi* portrayed certain women characters as being too passive, especially Manorama and her daughter Kusum. Many respondents expressed impatience with these passive characters, urging them to be more assertive.

4. Interviewees felt that *Hum Raahi* highlighted the need for women to have social support (Ram, 1993). This support should come not only from other women, but also from men.

Based on her semiotic analysis and in-depth interviews, Ram (1993) argued that the *Hum Raahi* text did not really challenge the "patrilineal, patrilocal, and patriarchal" structure of the Indian family, but instead worked "subtly to preserve it" (Ram, 1993, p. 109). Ram commended the *Hum Raahi* text for promoting women's education and rights, and for opposing child marriage, female foeticide, and male child preference, but questioned the ideological underpinnings of the text that were steeped in patriarchy.

In essence, semiotic analyses of E-E television programs can provide insights on the consistency between the main text (i.e. the key educational messages) and the accompanying sub-text (signs and codes that undergird the main text).

Participatory Photography

In 1973, while conducting a literacy project in a barrio of Lima, Peru, a team led by the noted Brazilian educator, Paulo Freire (author of the seminal 1970 book *Pedagogy of the Oppressed*), asked people questions in Spanish, but requested the answers in photographs. When the question "What is exploitation?" was asked, some people took photos of a landlord, grocer, or a policeman (Boal, 1979, p. 123). One child took a photo of a nail on a wall. It made no sense

to adults, but other children were in strong agreement. The ensuing discussions showed that many young boys of that neighborhood worked in the shoe-shine business. Their clients were mainly in the city, not in the barrio where they lived. As their shoe-shine boxes were too heavy for them to carry, these boys, rented a nail on a wall (usually in a shop), where they could hang their boxes for the night. To them, that nail on the wall represented "exploitation." The "nail on the wall" photograph spurred widespread discussions in the Peruvian barrio about other forms of institutionalized exploitation, including ways to overcome them.

Inspired by this Freirean technique, disposable cameras were handed out in 2002 to 11 listeners (7 women and 4 men) of *Taru*, an entertainment-education radio program in India. *Taru* was a 52-episode entertainment-education radio soap opera, broadcast in India from February, 2002 to February, 2003. Its purpose was to promote gender equality, small family size, reproductive health, caste and communal harmony, and community development.

The purpose of our participatory photography exercise was to gauge the influence of *Taru* on audience members in three villages of Bihar, India – Abirpur, Kamtaul, and Madhopur. Several *Taru* listening groups were active in these villages during 2002-2003, when *Taru* was broadcast in India's Bihar State. As opposed to asking subjects' questions, and thereby constraining the nature and scope of their word responses, they were asked to capture *Taru's* influence on them (or their community) through the language of images (Singhal, Sharma, Papa, & Witte, 2004). Our invitation to *Taru* listeners -- to "shoot back" (in images) the influence of the radio serial in their lives -- yielded some 145 photographs. After developing these pictures, we took the pictures back to our participants and asked the participants to narrate what the picture was depicting, what it meant to them, why did they take it, and so on.

The participants' photos, we noticed, served several functions: It allowed them (a) to co-share their lived reality, (b) to raise certain social issues for community discussion and action, (c) to develop a story that was previously marginalized, rejected, silenced, or overlooked, and (d) to talk about *Taru's* influence on them or their community (Singhal, Harter, Chitnis, & Sharma, in press).

Photographs that allowed the participants to co-share the reality of their lived experiences captured (a) the prevalent traditions and customs of Bihar's patriarchal society, (b) the norm of large family sizes and the resulting low levels of maternal and child health, (c) how children, especially young girls, engage in hard manual labor at home and in the fields, (d) how young girls are denied an education because of responsibilities to attend to household chores, and (e) how women's health is at risk because of poverty and other environmental factors.

For instance, Soni's photo of an old woman, who is trying to cover her head with her sari, **(Photo 1)** captured the strong patriarchal undercurrents in rural Bihar. She noted: "This is a very old woman who always covers her head when any man passes her. I asked her why she covered

her head and she said because the man who passed us is her brother-in law. Even if he is younger to her because he is from her in-laws family she covered her head. It's to show respect.”



Several photographs, and their accompanying narratives, called for community discussion, mobilization, and action. For instance, Vandana took a photo to advocate for rural communities to have small families, noting how large families contribute to poverty and malnutrition. Narrating the photo of a young mother with six children (**Photo 2**), Vandana said: “Too much population! One woman has so many children. People from different castes and tribes come to the village. They have such large families. Even food is being cooked outside. Will they be able to provide for so many family members? They don’t have a home, they have a shelter and they were sitting outside with their kids so I took the picture. Some people have everything, some nothing; we should do something about it!”



Several photographs provided an opportunity for our participants to develop a story that was previously marginalized, rejected, silenced, or overlooked. In some cases the participants, through their photos, spoke on behalf of “others,” including for the children, the elderly, and the *dalits* (people of the lower caste). In other cases, the participants gave voice to their own previously-silenced stories.

Some photographs spoke on behalf of the *dalits* (the lowest caste in India's social hierarchy), especially highlighting the need for them to have opportunities for education. For instance, Kumkum's photo of a teenage *dalit* girl (**Photo 3**) was accompanied the following narrative: "This is a lower caste girl. She does housework, as she is uneducated. Education is very important. Say if you need to sign; you cannot sign unless you are educated or you cannot read a letter unless you know how to read."



Several photographs gave voices to the participants own stories that were previously marginalized, silenced, overlooked, or rejected. Often these stories resonate with the stories depicted in the entertainment-education text. For instance, Vandana (who asked her cousin to take the picture) is standing next to a young man of her age (**Photo 4**).



When asked what the picture signified, she said: "This is my friend. He is [attending] my school. People say that girls shouldn't talk to boys. Some people still think that way and say,

‘why did you take this picture?’ But I think I did the right thing and it is okay.” When one of the present authors (Singhal) further debriefed her on this picture a few months later, she noted: “Yes, this boy studies in my high school and we attend the same coaching class. I feel comfortable talking to him and sharing my thoughts with him. I am not shy and timid like other girls of Village Kamtaul, who feel nervous talking to boys. If Taru and Shashikant [two of the main characters in the radio soap opera] can be good friends, why can’t we?” In the picture, Vandana is donning jeans, an outfit that conservative villagers regard as inappropriate. Also, perhaps for the first time in the history of Kamtaul Village, a young woman invited a young man to stand beside her and pose for a photograph. Interactions between young unmarried men and women are taboo in rural Bihar. Such a norm is understood; it is not debated, discussed, or voiced. Vandana credited her listening of *Taru* as being the engine for her to voice such hitherto “silenced” thoughts (Singhal, Sharma, Papa, & Witte, 2004).

Some photos, and their accompanying narratives, directly alluded to *Taru*’s influence on the participants. Mukesh’s photo of two girls helping each other to ride a bicycle (**Photo 5**), emphasized the gender equality message of *Taru*, including certain changes in young women’s behaviors in his Abirpur Village. As he noted: “These girls are trying to learn to ride a bike. After listening to *Taru*, girls are changing. Listening to radio these girls learn new ideas. It doesn’t have to be because of *Taru*, but they are influenced by something new.



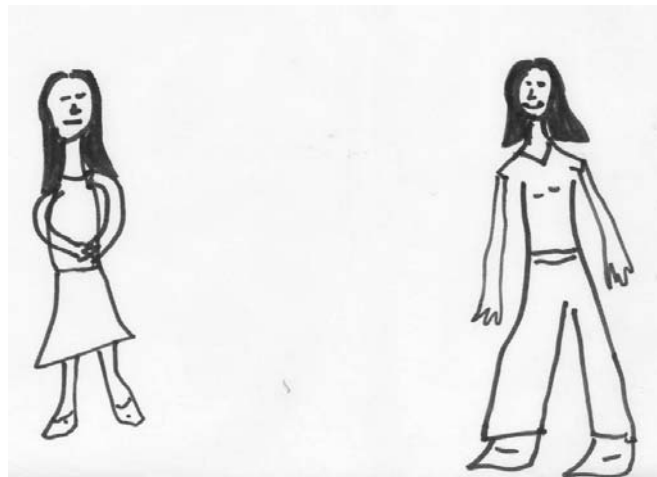
Participatory Sketching

As with the case with participatory photography, researchers may employ participatory sketching as a method to obtain rich, nuanced narratives from audience members of E-E programs.

The present author, for instance, employed the methodology of participatory sketching to gauge the effects of an on-going entertainment-education initiative in the Peruvian Amazon, spearheaded by Minga Perú, a non-governmental organization that promotes gender equality and reproductive health. For over four years now, Minga Perú has broadcast – three times a week -- a popular radio program, *Bienvenida Salud* (Welcome Health) in the Amazonas, and dove-tailed the E-E broadcasts with several community-based empowerment activities for local women (Singhal & Rattine-Flaherty, in press).

Using plain paper and colored markers, some 30 avid women listeners of *Bienvenida Salud* were asked to sketch out their perceptions of Minga Perú’s contributions to reproductive health, gender equality, and social change. For instance, one of the questions posed was: “How has my life changed as a consequence of listening to *Bienvenida Salud* and participating in community-based activities of Minga Perú?” Participants were asked to draw two pictures – one to sketch how their life was some five years ago (i.e. *antes*, in the past), and how their life is today (i.e. *ahora*, now).

Let’s consider the *antes* and *ahora* sketches of Emira (**Photo 6**), a 21-year old, including her narrative which accompanied the sketches:



Antes

Ahora

“This is my early life. I didn’t know how worthy I was; I was ashamed, I was sad. Now my personal life has changed, I feel myself as being capable exerting a public function; I don’t feel ashamed any more, I don’t have fear. I am proud of my body -- my femininity. Before I

didn't want to cut my hair but when I went to live to the city, I cut them. With the trousers it was the same. Now I feel capable to wear trousers, previously I wore loose clothes. The same with the shoes, now I wear high heels.”

Emira's sketch and its accompanying narrative provided a highly rich, highly poignant, and highly textured/nuanced insight on the long-term effects of E-E initiatives on certain audience members. Such insights are difficult, if not impossible, to obtain through structured personal interview surveys.

Further, in privileging visual forms of expression, such as participatory photography or participatory sketching, E-E researchers position themselves to question the dominant hegemony of textocentrism that legitimizes the lettered, literate, and text-based ways of knowing (Conquergood, 2002). Participatory photography and sketching, on the other hand, validate other non-textual ways of knowing by privileging the performative dimensions of sketches and photographs.

However, for visuals to become truly participatory, it is important that the participants not only make sketches and take photos and share their stories with the researcher (as was the case in the present research), but also share their stories with other community members, concerned citizens, and policymakers. We recommend that for participatory sketching and photography interventions, participants share their sketches and photos and their narratives with other community members to further gauge the commonality and differences of their meanings and interpretations. These community discussion sites can then also serve as a catalyst for community decisions and actions.

What is interesting about participatory sketching and photography is that they lie at the interface of theory, method, and praxis (see also Morphy & Banks, 1997). In taking stock of the sociology of visuals – whether in the form of sketches or photos – it is not difficult to discern the obvious conclusion: Almost all paintings, sketches, and photos are usually produced by “the powerful, the established, the male, the colonizer” to “portray the less powerful, less established, female, and colonized” (Harper, 1994, p. 408). Through participatory photography and sketching, E-E researchers hand over the means of visual production to the oppressed, the silent, and the muted. While recognizing that visuals allow the “oppressed” to make statements that are not possible by words, E-E researchers should remember that all sketches, paintings, and photographs are socially and technically constructed (Harper, 1994). Thus it is as important to foreground the absence of particular characters or scenes, as it is to explicate what is present.

Conclusions

The present paper provided an overview of the commonly-employed quantitative research methodologies in monitoring and evaluating E-E programs (such as after-only surveys, before-after measurements, interrupted time-series, and field experiments), and described certain

novel, low-cost, and engaging qualitative and participatory research methodologies (such as analysis of letters, semiotic analysis of visual codes, and participatory photography and sketching) that can provide rich insights about how audience members engage with E-E texts. Each method has its own unique strengths and weaknesses; so, when possible, mixed-method designs must be employed.

Monitoring and evaluation research methods for E-E have evolved from (1) Miguel Sabido's early 1970s measures of television ratings and such aggregate effects as the national rate of family planning adoption, to (2) measuring such individual effects as the adoption of a behavior change in audience surveys and in field experiments, to (3) investigating the complex process through which change may occur in a social system. The main research questions revolve around what effects do E-E programs have, and *how* such effects take place. Future research must utilize more qualitative and participatory research methods to probe the process through which E-E has effects.

References

- Boal, A. (1979). *The theatre of the oppressed*. New York: Urizen Books.
- Birdwhistell, R. (1952). *Introduction to kinesics*. Louisville, KY: University of Louisville Press.
- Brown, W.J., & Singhal, A. (1990). Ethical dilemmas of prosocial television. *Communication Quarterly*, 38(3), 268-280.
- Brown, W.J., & Singhal, A. (1993). Ethical considerations of promoting prosocial messages through the popular media. *Journal of Popular Film and Television*, 21, 92-99.
- Conquergood, D. (2002). Performance studies: Interventions and radical research. *The Drama Review: A Journal of Performance Studies*, 46 (2): 145-156.
- Engineer, S. (1992, February). "Hum Raahi: The long road home," *TV & Video World*, 4, 22-26.
- Law, S., & Singhal, A (1999). Efficacy in letter-writing to an entertainment-education radio serial. *Gazette*, 61, 355-372.
- Morphy, H., & Banks, M. (1997). Introduction: Rethinking visual anthropology. In H. Morphy & M. Banks (Eds.), *Rethinking visual anthropology* (pp. 1-35). New Haven and London: Yale University Press.
- Piotrow, P.T., Rimon II, J.G., Winnard, K., Kincaid, D.L., Huntington, D., & Convisser, J. (1990). Mass media family planning promotion in three Nigerian cities. *Studies in Family Planning*, 21(5), 265-273.
- Freire, P. (1970). *Pedagogy of the oppressed*. NY: Continuum.
- Hall, E.T. (1966). *The hidden dimension*. New York: Random House.
- Harper, D. (1994). On the authority of the image: Visual methods at the crossroads. In N.K. Denzin and Y.S. Lincoln (Eds.) *Handbook of Qualitative Research*. (pp. 403-412). Newbury Park, CA: Sage.
- Ram, A. (1993). *Women as sign: A semiotic analysis of gender portrayal in Hum Raahi*. MA thesis. Athens, Ohio: Ohio University, School of Communication Studies.

Rogers, E.M., Hirata, T.M., Chandran, A.S., & Robinson, J.D. (1994). Television promotion of gender equality in societies. In P.S. Kalbfleisch & M.J. Cody (Eds.), *Gender, power, and communication in human relationships*. Mahwah, NJ: Lawrence Erlbaum Associates.

Rogers, E.M., Vaughan, P.W., Swalehe, R.M.A., Rao, N., Svenkerud, P., & Sood, S. (1999). Effects of an entertainment-education radio soap opera on family planning in Tanzania. *Studies in Family Planning*, 30(3): 193-211.

Singhal, A., & Devi, K. (2003). Visual voices in participatory communication. *Communicator*, 37, 1-15.

Singhal, A., Harter, L. M., Chitnis, K., & Sharma, D. (in press). Shooting back: Participatory photography in entertainment-education. *Black Praxis*, pp. in press.

Singhal, A., & Rattine-Flaherty, E. (in press). Pencils and Photos as Tools of Communicative Research and Praxis: Analyzing Minga Perú's Quest for Social Justice in the Amazon. *Gazette*, pp. in press.

Singhal, A. & Rogers, E.M. (1988). Television soap operas for development in India. *Gazette*, 41, 109-126.

Singhal, A., & Rogers, E.M. (1989). Pro-social television for development in India. In R. E. Rice & C. Atkin (Eds.), *Public communication campaigns* (pp. 331-350). Second Edition. Newbury Park: CA, Sage.

Singhal, A., & Rogers, E. M. (1999). *Entertainment-education: A communication strategy for social change*. Mahwah, NJ: Lawrence Erlbaum.

Singhal, A., & Rogers, E. M. (2002). A theoretical agenda for entertainment-education. *Communication Theory*, 12 (2): 117-135.

Singhal, A., Sharma, D., Papa, M. J., & Witte, K. (2004). Air cover and ground mobilization: Integrating entertainment-education broadcasts with community listening and service delivery in India. In A. Singhal, M. Cody, E. M. Rogers, & M. Sabido (Eds.), *Entertainment-education and social change: History, research, and practice* (pp. 351-374). Mahwah, NJ: Lawrence Erlbaum.

Sood, S., & Rogers, E.M. (1996, November). *Parasocial interaction by letter-writers to an entertainment-education soap opera in India*. Paper presented at the Speech Communication Association. San Diego, CA.

Storey, D. (1998). Discourse, popular culture and entertainment-education for sustainable health communication: Lessons learned from Pakistan and Indonesia. In T. Jacobson & J. Servaes (Eds.), *Theoretical approaches to participatory communication*. Cresskill, NJ: Hampton Press.

Valente, T.W., Kim, Y.M., Lettenmaier, C., Glass, W., & Dibba, Y. (1994). Radio promotion of family planning in the Gambia. *International Family Planning Perspectives*, 20, 96-100.

NOTES

¹ The present paper draws upon some of the previous writings of the present author: Singhal and Rogers (1999), Singhal and Devi (2003), Singhal, Harter, Chitnis, and Sharma (in press); and Singhal, Sharma, Papa, and Witte (2004). A special thanks to all collaborators and co-authors on this E-E research journey.

² Actually, the Johns Hopkins University evaluation of the effects of *Fakube Jarra* had certain aspects of a field experiment when radio broadcasting in the northern region of the country was conveniently halted by the failure of an electrical power plant. The experimental results, however, were not reported by Valente and others (1994).

³ Ethical problems such as these are discussed by Brown and Singhal (1990; 1993).

⁴ Previous research on parasocial interaction focused on audience members' perceived relationships with news broadcasters and others.