ARTICLES

Effects of an Entertainment-Education Radio Soap Opera on Family Planning And HIV Prevention in St. Lucia

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Context: *An entertainment-education radio soap opera,* Apwe Plezi, *was broadcast from February 1996 to September 1998 in St. Lucia. The program promoted family planning, HIV prevention and other social development themes.*

Methods: *The program's effects were assessed through analyses of data from nationally representative pretest and posttest surveys, focus-group discussions and other qualitative and quantitative sources.*

Results: *Among 1,238 respondents to the posttest survey, 35% had listened to* Apwe Plezi, *including 12% who listened at least once per week. Multivariate analyses show significant effects of both time and listenership category on several knowledge, attitude and behavior variables. For example, 16% of posttest respondents knew a slang term for condoms that was coined for the radio program, and the proportions of respondents who considered it acceptable for husbands to have sex partners outside their marriage declined from 27% in the pretest to 14% in the posttest survey. Compared with nonlisteners, regular listeners were more likely to trust family planning workers (83% vs. 72%) and considered a significantly lower number of children the ideal (2.5 vs. 2.9). Fourteen percent of listeners reported having adopted a family planning method as a result of listening to the program.*

Conclusion: Apwe Plezi *influenced listeners to increase their awareness of contraceptives, improve important attitudes about fidelity and family relations, and adopt family planning methods. Important lessons for entertainment-education programmers include that program reach, and therefore effects, can be limited by competition with other programming, and that monitoring listeners' perceptions is essential to detect and correct misinterpretations of program messages.*

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Entertainment-education is a communication strategy consisting of the insertion of educational or motivational information into entertainment media.[1] Programs are characterized by an ongoing story line with several concurrent plots linked together by the characters' personal relationships. Each episode ends with a hook, or cliffhanger, that creates interest in the next episode, and a brief epilogue that poses rhetorical questions or provides information, such as the number of a telephone hot line.

The entertainment-education strategy is based on Bandura's social cognitive theory, which posits that individuals learn new behaviors by observing and imitating the behavior of others, who serve as role models.[2] Another underlying principle is that individuals may increase their self-efficacy, or sense of their ability to carry out a task, by seeing individuals similar to themselves perform the task successfully. This makes entertainment-education a suitable approach for efforts to reduce unintended pregnancy and HIV infection, since self-efficacy is associated with contraceptive use among women at risk of these events.[3]

Evaluations of entertainment-education programs have generally found that they have measurable effects on family planning knowledge, attitudes and practice, and are particularly important in stimulating interpersonal communication about family planning and increasing self-efficacy with respect to the use of family planning methods and HIV prevention.[4] However, one study found limited effects of an entertainment-education program on HIV and AIDS prevention,[5] and another criticized some previous studies for lacking rigor in design and analysis.[6]

In the Caribbean island-nation of St. Lucia, an entertainment-education radio soap opera, *Apwe Plezi*, was produced and broadcast to promote the use of family planning, the prevention of HIV and other sexually transmitted diseases (STDs), gender equity and other social development goals. (The name *Apwe Plezi* derives from the Creole proverb "Apwe plezi c'est la pain," or "After the pleasure comes the pain."[7]) The purpose of this article is to assess the program's success in achieving its educational goals.

Context

St. Lucia's population was about 136,000 in 1990,[8] and it grew by about 1.2% per year through 2000.[9] The total fertility rate was 3.8 lifetime births per woman in 1980 but had declined to 2.6 by 1997.[10] The contraceptive prevalence rate remained roughly constant at about 55% from 1988 to 1997;[11] some 62% of pregnancies were unintended in 1988,[12] and 21% of births were to women younger than 20 in 1991.[13]

Catholicism is the predominant religion in St. Lucia, but Seventh-Day Adventist and evangelical Protestant churches represent a growing minority. Many St. Lucians choose not to marry, but instead cohabit or enter visiting unions (in which the partners do not live together); as a result, 85% of births occur out of wedlock.[14] A 1994 report documented improved status for women in government, employment and education, but highlighted an increase in reports of domestic violence against

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women.[15] The per capita gross national product was about US $3,370 in 1997.[16]

The Program

The entertainment-education radio soap opera *Apwe Plezi* was designed to address 37 educational issues identified in formative research. These issues included knowledge, attitudes and behavior related to family planning, HIV prevention, gender equity, relationship fidelity and domestic violence.

During the program's first phase, from February 1996 to May 1997, 260 episodes were broadcast from 5:15 to 5:30 P.M. Tuesday through Friday (with a repeat of Friday's episode on Monday) on Radio St. Lucia.* There followed a period of several months when selected episodes from the initial phase were rebroadcast with a narrator to bridge the gap in the story line. For the second phase, 105 episodes were broadcast from July 1997 to September 1998; two new 15-minute episodes each aired three times every week. The 400th episode of *Apwe Plezi* was broadcast during the third phase, in July 2000.

The characters in entertainment-education programs serve as positive, negative or transitional behavioral role models, and their fates provide vicarious learning experiences to demonstrate the consequences of alternative behaviors. Positive characters embody positive values and are rewarded. In *Apwe Plezi*, for example, Leona is a well-educated woman of 23 who wants to delay childbearing until she is financially secure. Leona suspects that her boyfriend, Marcus, has other sexual partners, and she decides to break up with him because of her fear of contracting HIV from him. Leona eventually takes a job and marries Marcus, after he reforms.

Negative characters embody negative values and are punished. The *Apwe Plezi* character Tony has multiple partners and children by two of them. He refuses to support his children, he rapes a woman on a date and ultimately he contracts HIV. Transitional characters are torn between the positive and the negative values, but eventually choose the positive values and are rewarded. For example, Georgie is a young man who becomes a drug user and unintentionally impregnates his 16-year-old girlfriend, but who later enters a drug rehabilitation program and tries to become more sexually responsible.

The RARE Center and the St. Lucia Planned Parenthood Association (SLPPA) collaborated on several other activities to augment the effects of the radio soap opera, including a street theater production that used *Apwe Plezi* characters and was performed 21 times in 1998 and viewed by about 1,500 people. *Apwe Plezi* story updates were regularly published in the local press, and posters, bumper stickers and billboards were used to advertise the radio program.

Methods

Data and Analyses

Our principal source of information about the program's effects was a pretest-posttest survey conducted through personal interviews. A January 1995 survey of 753 men and women provided baseline data. Posttest surveys were conducted in June 1997 (among 741 respondents) and in September 1998 (with 497 respondents). Each survey included an independent quota sample that was representative of the country's sexually active population aged 15–54 (according to the 1991 census) in terms of geographic representation of the 10 districts of St. Lucia, sex ratio, age distribution and socioeconomic status. Because the samples were small, especially in the 1998 survey, and regular listenership to *Apwe Plezi* was not high, detection of statistically significant changes is problematic. To improve the power of our statistical tests, we combined the 1997 and 1998 surveys into a single posttest sample, and we conducted all statistical tests on this combined sample of 1,238 men and women.†

The independent (control) variables used in the study are listed in Table 1 (page 150), and the dependent variables are identified in Table 2 (page 152). Using multivariate logistic regression analysis (for categorical dependent variables) and multivariate general factorial analysis of variance (for continuous dependent variables), we examined the data in two ways. First, we tested for changes in the dependent variables across time, from pretest to posttest. Any association between a dependent variable and time may have been caused by some factor that was unrelated to but occurred contemporaneously with the broadcast of *Apwe Plezi*. However, to the best of our knowledge, there were no new development initiatives in St. Lucia between 1995 and 1998 that might explain the changes observed in this study.

Second, we tested for differences in the dependent variables by listenership category in the posttest sample, which we determined in the following way: We asked all participants if they had ever listened to *Apwe Plezi* on the radio; if they said yes, we asked how often they listened to it. The latter question had three response options: once a week or more, less than once a week and not at all. We categorized respondents choosing the first option as regular listeners, those giving the second answer as casual listeners and the rest as nonlisteners. In these analyses, any association between the dependent variables and listenership category may be the result of self-selection to the audience by people who already agreed with the educational themes being promoted by the radio program.

Since both of our analytic approaches have validity threats caused by the correlational nature of the analyses, it is difficult to infer causal effect. We adjusted for these validity threats by controlling for 13 variables reflecting demographic characteristics, socioeconomic status, mass media access and family planning availability (the first 13 variables in Table 1, added to our models through forward stepwise likelihood-ratio selection). Although the use of such statistical controls is only a partial solution to the validity threats inherent to all nonexperimental designs, it is the most appropriate analytic method, given the impossibility of implementing an experimental design for a mass media intervention in a small country that is completely covered by a single radio transmitter.[17]

Causation may be inferred from listeners' "self-attribution" that their changes in knowledge, attitudes and behaviors resulted from listening to *Apwe Plezi*, although such self-attribution may be overstated because of the leading nature of the questions required to elicit the responses. The personal interview questionnaire minimized this effect by asking unprompted (open-ended) questions first, and then prompted questions. To provide conservative estimates of the radio pro-

*The production and evaluation of *Apwe Plezi* involved a collaboration between the RARE Center, a nongovernmental organization based in Philadelphia, PA, USA, that is dedicated to the preservation of island biodiversity; the St. Lucia Planned Parenthood Association; the National Population Unit of the Ministry of Planning; the St. Lucian Ministry of Health; and Population Communications International, a nongovernmental organization based in New York. Airtime was donated by the government-owned Radio St. Lucia.

†We compared the 1997 and 1998 samples on the same 15 independent variables employed in the subsequent analyses, using chi-square tests for categorical variables and t-tests for continuous variables. There was no statistical difference between the 1997 and 1998 data on nine of these variables. Compared with respondents in the 1998 sample, those surveyed in 1997 were more urban, about two years younger, more likely to own radios, more likely to listen to the FM station Radio Helen 100 and to *Apwe Plezi*, and less likely to listen regularly to the soap opera. We concluded that combining the two samples into a single posttest sample is an acceptable analytic strategy.

Table 1. Percentage of survey respondents with selected characteristics, or mean value of selected measures, by timing of survey and *Apwe Plezi* listenership category, St. Lucia

Characteristic	Timing		Listenership		
	Pretest (N=753)	Posttest (N=1,238)	Non-listener (N=799)	Casual listener (N=288)	Regular listener (N=151)
Urban residence	18	25*	23	29	31*
≤primary school education	45	42*	46	29	45*
Own a radio	96	92*	90	95	95*
Live in town with condoms available	91	80*	78	86	83*
Live in town with family planning available	83	70*	68	74	73
Catholic	71	63*	63	59	65
Speak Creole at home	54	67*	69	63	66
In union	36	44*	45	44	42
Male	48	49	54	44	33*
Mean parity (and standard error)	1.6 (0.1)	1.6 (0.1)	1.7 (0.1)	1.3 (0.1)	1.9 (0.2)*
Listen to Radio St. Lucia often or most often	38	39	34	44	57*
Mean age (and standard error)	29.3 (0.4)	28.7 (0.3)	28.9 (0.3)	27.8 (0.5)	29.4 (0.8)
Listen to Radio Helen 100 often or most often	na	65	63	69	66
Regular or casual listener to *Apwe Plezi*	na	35	na	100	100
Regular listener to *Apwe Plezi*	na	12	na	0	100

*Difference between surveys or between listeners and nonlisteners is statistically significant at p≤.05. *Note:* na=not applicable.

gram's effects, we report responses to unprompted questions when possible.

In addition to the personal interviews, 44 focus-group interviews were conducted at intervals throughout the broadcast period to monitor listeners' responses to the program. Interview guides evolved from asking about listeners' perceptions of characters and story lines in the early focus groups to asking about educational issues and personal involvement with the radio program in later ones.

To assess trends in the use of family planning services, we monitored SLPPA clinics for the number of patient visits from 1994 to 1999. In addition, the government Statistics Department provided data on contraceptive imports and the numbers of births to adult and teenage women from 1990 to 1999.

We had one final source of information for measuring the program's effects. The RARE Center established a telephone number with a recording machine for listeners to call with comments on the radio program; the telephone number was regularly provided in *Apwe Plezi*'s epilogues. A hot line for telephone consultations was established in collaboration with SLPPA in October 1996. We conducted content analyses on the recorded messages to gather anecdotal information about individual listeners' responses to the program.

Sample Characteristics

According to results of chi-square testing and analyses of variance, the pretest and posttest samples were significantly different with respect to several independent variables (Table 1). Members of the posttest sample were more likely than participants in the pretest to live in urban areas, speak Creole at home and be in a sexual union; they were less likely to have a low educational level, own a radio, say that condoms were available in their town, say that family planning was available and be Catholic. Because of these differences, 12 independent variables were used as controls in all statistical tests of the relationship between time (pretest vs. posttest) and our dependent variables.*

Sixty-five percent of the posttest sample did not listen to *Apwe Plezi*, while 23% reported being casual listeners and 12% were regular listeners.† Several significant differences emerged among listenership categories (Table 1). Respondents who listened to *Apwe Plezi* regularly were the most likely to live in urban areas, own a radio, be female and be regular listeners to Radio St. Lucia; they also had the largest families. Casual listeners were the least likely to have no more than a primary education, and nonlisteners were the least likely to live in a town where condoms were available. Because of these differences, the first 13 independent variables in the table were used as controls in all statistical tests of the effect of *Apwe Plezi* on our dependent variables.‡

We measured eight dependent variables related to knowledge about family planning and STD prevention, 14 related to attitudes about family planning and gender equity, and eight pertaining to behaviors regarding family planning and STD prevention. Those variables that showed an effect of *Apwe Plezi*—four knowledge, nine attitudinal and seven behavioral—are included in our analyses.§

Results

Perceptions of Apwe Plezi

According to results from our 1997 survey, *Apwe Plezi* was the second most popular program on Radio St. Lucia that year, and the fourth most popular program on any radio station in the country, competing favorably with other programs of various genres (e.g., news, sports and music). Findings from the combined posttest sample shed some light on listeners' perceptions of the program and its characters.

The audience, especially regular listeners, generally viewed positive characters as such. For example, Leona (the young woman who wanted to delay childbearing and who broke up with her boyfriend rather than risk contracting HIV) was viewed as being "morally good" by 25% of all listeners in 1997 and by 28% in 1998; among regular listeners, 56% in 1998 viewed her as being morally good.

*The control variables are all of the independent variables in Table 1 except listenership to Radio Helen 100 (which was not asked about in 1995) and the two variables regarding listenership to *Apwe Plezi*. Many of the differences between the pretest and posttest samples are likely attributable to sampling error. However, variation in urban residence likely stems from a change in the way this variable was determined: At the pretest, respondents were asked to describe their place of residence, while at the posttest, enumerators were asked to classify each household. The decline in the proportion of Catholic respondents may be partly attributable to the growing influence of several Protestant churches. Variables that were not associated with significant differences between the samples were included as controls because sometimes a variable becomes significant in multivariate analyses; furthermore, certain variables, such as parity, have associations with family planning use in other countries, and it was therefore reasonable to examine their effects here.

†Casual listenership was higher in 1998 (33%) than in 1997 (17%), but regular listenership was about the same in both years.

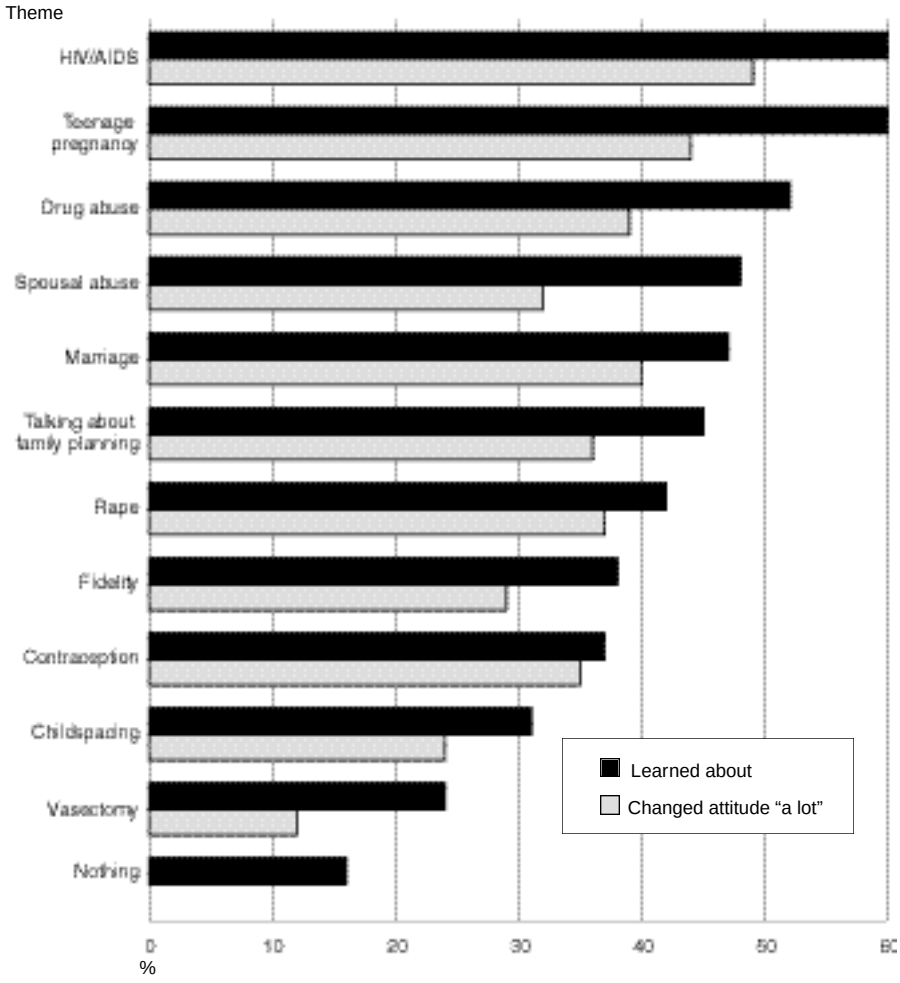
‡Most of the differences between listeners and nonlisteners are likely the result of self-selection to the radio program, or the fact that the radio program was more appealing or accessible to some individuals than to others.

§The knowledge variables that showed no effect were the belief that it is possible to space births, awareness of tubectomy, family planning users' knowledge of radio as an information source and knowledge that HIV is spread by heterosexual intercourse (which was known by 99% of respondents in 1995). The attitude variables with no effect were approval of family planning, feeling about going to a family planning clinic, desire to have another child, believing that using family planning would make respondents feel they were doing something good and believing that men have the right to beat their partner if she disobeys them. Ever-use of family planning was the only behavioral variable that had no effect.

Listeners' opinions of transitional characters improved over time if the characters' behavior improved. For example, when Marcus (Leona's boyfriend, who had multiple sexual partners) reformed his behavior, the proportion of regular listeners who considered him morally good rose from 31% to 44%, while the proportion who viewed him as morally bad declined from 23% to 9%. As might be expected, there is more ambivalence about transitional characters who had not fully resolved their behavioral problems at the time of the 1998 survey. For example, regular listeners were evenly divided as to whether Georgie, who at one point fails in his effort to stop using drugs and be celibate with his girlfriend, was morally good (31%) or morally bad (26%).

Surprisingly, listeners' opinions also were divided about one of the main negative characters, Tony, who had been accused of date rape, led an irresponsible sexual life and was infected with HIV. Some 17% of all listeners viewed him as being morally good, while only 12% viewed him as being morally bad. Some regular listeners also considered him morally good (38%), and women were more likely than men to view him in a positive light (19% vs. 15%). This is an example of the so-called Archie Bunker effect, in which some audience members interpret a negative character as being positive.[18]

Figure 1. Percentage of regular listeners to *Apwe Plezi*, by self-reports of the program's effects on their knowledge and attitudes, according to theme



Note: Percentages for knowledge changes reflect unprompted responses; percentages for attitude changes reflect prompted responses.

Knowledge Variables

Regular listeners to *Apwe Plezi* were highly cognizant of its educational content. In response to an unprompted question asking listeners what topics they had learned about from the program, 52–60% of regular listeners cited HIV or AIDS, teenage pregnancy or drug abuse (Figure 1). Other salient themes were spousal abuse, marriage, discussion of family planning and rape (cited by 42–48%). Only 16% of regular listeners reported learning nothing from the radio soap opera.

Focus-group participants were also aware of the educational content of *Apwe Plezi*, as the following comment indicates:[19]

"Very interesting, and I learn a lot of different things, such as how different persons deal with different kinds of problems.…"—*38-year-old man*

The proportion of survey respondents who were aware of contraceptive pills increased from 77% to 83% between the pretest and the posttest, and the odds ratio from the multivariate analysis (1.6) was statistically significant (Table 2, page 152). Differences in awareness of oral contraceptives among listenership categories, however, were not significant.*

RARE Center staff coined the term "catapult" as a new slang term for condoms, and characters in the soap opera began using it in episode 140, prior to the 1997 survey. In 1997, 16% of all survey respondents, 22% of listeners and 13% of nonlisteners knew the term (not shown). At this time, the only way one could have learned the term was by listening to *Apwe Plezi* or by talking to an *Apwe Plezi* listener. By contrast, in 1998, knowledge about the term "catapult" remained at 16% of all respondents, but was about equal between listeners and nonlisteners. This finding may reflect that in December 1997, SLPPA began selling Catapult-brand condoms,[20] and these were being sold in nine out of 10 districts in the country by the time of the later survey. In the combined posttest sample, 14% of nonlisteners, 17% of casual listeners and 26% of regular listeners knew what "catapult" meant, and the difference was statistically significant (odds ratio, 2.2).

While knowledge that HIV is spread by homosexual intercourse with an infected person was high in 1995 (90%), it increased (to 93%) by the time of the posttest; the multivariate result (odds ratio, 1.6) was statistically significant. Listeners and nonlisteners did not differ on this variable.

Belief that HIV can be contracted by caring for an AIDS patient increased from 24% of respondents at pretest to 37% at posttest. However, the proportion holding this view was about equal among listeners and nonlisteners, suggesting that the rumor was widespread in St. Lucia.

Attitude Variables

Listeners were asked whether listening to *Apwe Plezi* had caused them to change their attitude about 11 educational themes

*Results for other variables that were significant in the multivariate analyses are described in the appendix (page 156).

Table 2. Percentage of respondents, or mean value, by knowledge, attitude and behavior measures addressed by *Apwe Plezi*, according to timing of survey and listenership category; and multivariate results from analysis of relationship between timing of survey or listenership category and measure

Measure	Timing			Listenership			
	Pretest	Posttest	Multivariate result	Nonlistener	Casual listener	Regular listener	Multivariate result
Knowledge							
Are aware of the pill	77	83	1.6**	84	82	80	ns
Know that Catapult is a type of condom	na	16	na	14	17	26	2.2**
Know that HIV is spread by homosexual intercourse	90	93	1.6**	93	93	90	ns
Believe that HIV is spread by caring for AIDS patient	24	37	1.9**	37	38	36	ns
Attitude							
Believe it is possible to determine one's family size	60	62	1.5**	60	68	60	ns
Mean ideal age for women's first birth (and standard error)†	23.4 (0.2)	22.6 (0.1)	–0.8**	22.7 (0.2)	22.4 (0.2)	23.0 (0.4)	ns
Mean ideal number of children (and standard error)‡	2.7 (0.1)	2.8 (0.1)	ns	2.9 (0.1)	2.8 (0.1)	2.5 (0.1)	–0.4**
Believe men can have other sexual partners after marriage	27	14	0.5**	16	12	10	ns
Believe women can have more than one sexual partner before marriage	33	29	ns	30	33	19	0.5**
Believe a wife needs her husband's consent to work	84	71	0.4**	71	74	62	ns
Believe parents should impose their will on children	75	68	0.7**	71	63	63	0.8*
Intend to use family planning§	47	39	0.7*	37	46	35	ns
Believe that you can trust staff at family planning clinics	84	75	ns	72	78	83	1.5*
Behavior							
Talked to spouse/partner about family planning	77	67	0.6**	65	72	65	ns
Talked to same-sex friend about family planning	69	57	0.6**	52	69	57	1.9**
Talked to a family planning worker	37	27	0.6**	26	27	30	ns
Currently use modern method of family planning††	53	54	ns	55	58	47	ns
Currently use condoms‡‡	21	24	ns	24	20	31	ns
Pregnant/partner is pregnant	6	7	ns	7	7	6	ns
Cite STD prevention as the main reason for using family planning§§	9	13	ns	12	14	10	ns

*p≤.05. **p≤.01. †Based on respondents who gave numeric responses: 466 respondents in the pretest and 686 (429 nonlisteners, 165 casual listeners and 92 regular listeners) in the posttest. ‡Based on respondents who gave numeric responses: 493 respondents in the pretest and 755 (463 nonlisteners, 190 casual listeners and 102 regular listeners) in the posttest. §Based on nonusers: 380 respondents in the pretest and 661 (433 nonlisteners, 145 casual listeners and 83 regular listeners) in the posttest. ††Based on women in union: 146 respondents in the pretest and 270 (170 nonlisteners, 62 casual listeners and 38 regular listeners) in the posttest. ‡‡Based on men in union: 120 respondents in the pretest and 277 (186 nonlisteners, 65 casual listeners and 26 regular listeners) in the posttest. §§Based on users: 318 respondents in the pretest and 542 (340 nonlisteners, 139 casual listeners and 63 regular listeners) in the posttest. *Notes:* Multivariate results for categorical variables are odds ratios from logistic regression and for continuous variables are coefficients from analyses of variance. na=not applicable. ns=not statistically significant. For results of multivariate analysis using other independent variables, see appendix (page 156).

"a lot, a little, or not at all." On average, the proportions reporting substantial attitude change are 10 percentage points lower than (or about 80% of) the levels reporting having learned about the themes, but the patterns are similar. For example, the highest levels of self-reported learning and attitude change were for HIV and AIDS, teenage pregnancy and drug abuse.

Between the pretest and the posttest, respondents' level of belief about individuals' ability to determine their family size increased from 60% to 62%, and their notion of the ideal age for a woman to first give birth declined 0.8 years; the odds ratios for these changes indicated a significant effect of time. These variables did not differ among listenership categories.

There was no significant change between the pretest and the posttest in ideal family size, but there was a significant difference among listenership categories. *Apwe Plezi* regular listeners had a smaller mean ideal family size (2.5 children) than nonlisteners (2.9).

Posttest respondents were significantly less likely than pretest participants to believe that it is acceptable for married men to have other sexual partners than their wives (27% vs. 14%); differences among listenership categories were not significant. By contrast, belief that it is acceptable for women to have multiple sexual partners before marriage was unchanged over time, but regular listeners were less likely than nonlisteners to consider this behavior acceptable (19% vs. 30%).

The proportion who agreed that a woman needs her husband's consent to work outside the home declined significantly between the pretest (84%) and the posttest (71%), but this measure was unaffected by listenership category. Belief that parents should "impose" their will on their children declined over time (from 75% to 68%), and listeners were significantly less likely to agree with this statement (63% of both regular and casual listeners) than nonlisteners (71%).

Among nonusers of family planning methods, 47% of the pretest sample intended to use a method, compared with 39% of those in the posttest; the multivariate findings indicate a significant decline (odds ratio, 0.7). Casual listeners appeared to be more likely to report that they intended to use family planning than either nonlisteners or regular listeners; however, this difference was not significant, and the number of regular listeners who were not currently using family planning was small (83).

Finally, while belief in the trustworthiness of family planning staff did not change over time, listeners were more likely than nonlisteners to trust family planning clinic staff (78–83% vs. 72%), and the odds ratio from the multivariate analysis indicates that the effect was significant.

Behavior Variables

Listeners were asked the unprompted question "What, if anything, did you do as a result of listening to *Apwe Plezi*?" with six coded responses. Eighteen percent of men and women who listened regularly to *Apwe Plezi* reported that they had talked about its family planning content, and 14% reported that they had adopted a family planning method. Six percent of regular listeners reported that they had called a hot line or gone somewhere to obtain counseling. Twenty-nine percent had not changed their behavior as a result of listening to the program. The self-reported behavior changes were, on average, about 45% of the reported attitude change.

In 1998, 35% of listeners said they talked to a friend and 19% reported talking to their spouse as a result of listening to *Apwe Plezi*. Of those who talked to someone, 32% reported discussing the characters, 18% discussed how the radio program related to their own lives and 15% talked about the radio program's family plan-

ning content. The following exchange between two women in a 1998 focus group illustrates the role of *Apwe Plezi* in stimulating interpersonal discussions:[21]

32-year-old woman: "Well, we used to talk about [*Apwe Plezi*]."

28-year-old woman: "You mean argue. Those women were always arguing about who was right or wrong."

32-year-old woman: "I think it made us think and talk a lot. I even used to tell my cousin to listen to [Georgie, a transitional character] on the program."

The proportion of respondents who reported talking to their spouse or partner about family planning declined from 77% in the pretest to 67% in the posttest (odds ratio, 0.6), and the change was statistically significant (Table 2). Differences among listenership categories were not significant. Between the pretest and the posttest, there were also statistically significant declines in the proportions of respondents who reported discussing family planning with a same-sex friend (69% vs. 57%; odds ratio, 0.6) and with a family planning worker (37% vs. 27%; odds ratio, 0.6). Casual listeners reported more discussion with friends than nonlisteners (odds ratio, 1.9), and listeners generally reported more discussions with friends and family planning workers than nonlisteners, although most of these relationships were not statistically significant.

Current use of family planning methods was slightly but nonsignificantly higher at the posttest (54%) than at the pretest (53%). Given the level of regular listenership among women (16%) and the self-reported adoption of family planning among regular female listeners (15%), one would expect an increase of two percentage points (0.16 x 0.15=0.02), rather than one point. Therefore, our unprompted self-reports may not be overstated, and are consistent with the hypothesis of a small *Apwe Plezi* effect on women's family planning adoption. Similarly, casual listeners seemed somewhat more likely than nonlisteners or regular listeners to be current users, but these differences were not statistically significant. However, these results are based on very small numbers of listeners; in analyses based on all respondents in 1998, listeners were significantly more likely than nonlisteners to be current users of a family planning method (52% vs. 43%; odds ratio, 1.6).

Among men who were in a sexual union, the proportion currently using condoms was 21% at pretest and 24% at posttest, but this increase was not statistically significant. Men who reported not being in a regular sexual union have a much higher rate of condom use than men in a union (39% vs. 21% in 1995—not shown), possibly because they were using condoms with casual partners to avoid contracting an STD. Regular listeners were the most likely to report using condoms (31%), but the difference was not significant, perhaps because of the small sample of male listeners.

Finally, although the proportion of family planning users who cited protection from STDs as their primary reason for use increased slightly from pretest (9%) to posttest (13%), this change was not significant and occurred about equally among listeners and nonlisteners.

Service Statistics

Condom importation increased modestly between 1995 and 1997, and then rose 45% in 1998 and 143%, reaching 7,043 kg, in 1999 (Table 3). By contrast, imports of chemical contraceptives (hormonal and spermicidal methods) decreased 9% from 1995 to 1996, roughly doubled in 1997 and fluctuated at about 1,200 kg through 1999. The number of new family planning acceptors at SLPPA clinics increased each year from 1995 to 1999;* although the increase was small (1–6%) in most years, it reached 13% in 1997. The generally larger increases in contraceptive imports and new method users after 1996 are consistent with the hypothesis that *Apwe Plezi* would positively affect service demand, and SLPPA attributes much of the increase to the radio program.[22]

Approximately 40,630 women aged 15–54 resided in St. Lucia in 1997.† Sixteen percent of women in our survey were regular listeners to *Apwe Plezi*, and 4% of regular listeners had gone to an SLPPA clinic because of *Apwe Plezi*; together, these findings suggest that the program should have motivated 260 women nationwide to attend an SLPPA clinic. This estimate is approximately 60% of the actual cumulative increase in new acceptors at SLPPA clinics (431) between 1995 and 1998.‡

Fertility Trends

Between 1990 and 1995, the total number of births to St. Lucian women was approximately constant, at an average of 3,673 births per year, but for the period 1996–1999, the annual number dropped 13% to an average of 3,183 (Figure 2, page 154). Births to teenagers have been declining steadily since at least 1990; this decline may be partly attributable to the aging of the population as a result of previous fertility declines, but it accelerated after 1995. The proportion of all births that were to teenagers declined from 21% in 1990 to 16% in 1999.§

These changes in fertility correspond with the broadcast of *Apwe Plezi*, and are consistent with an effect of the radio soap opera on fertility in St. Lucia. But it is difficult to establish a causal relationship because of the correlational nature of the analyses and the small number of years available for regression analysis. Also, the declines in both overall births and those occurring among teenagers began somewhat sooner than might be expected, given the necessary nine-month lag between a change in contraceptive behavior and any decline in births.

Table 3. Volume of imports of condoms and of chemical contraceptives, and number of new family planning acceptors at SLPPA clinics, by year

Measure	No.
Condom imports (kg)	
1995	1,791
1996	1,884
1997	2,008
1998	2,904
1999	7,043
Chemical methods imports (kg)†	
1995	676
1996	617
1997	1,225
1998	1,197
1999	1,292
New acceptors	
1994	879
1995	887
1996	932
1997	1,053
1998	1,107
1999	1,175

†Hormonal and spermicidal methods.

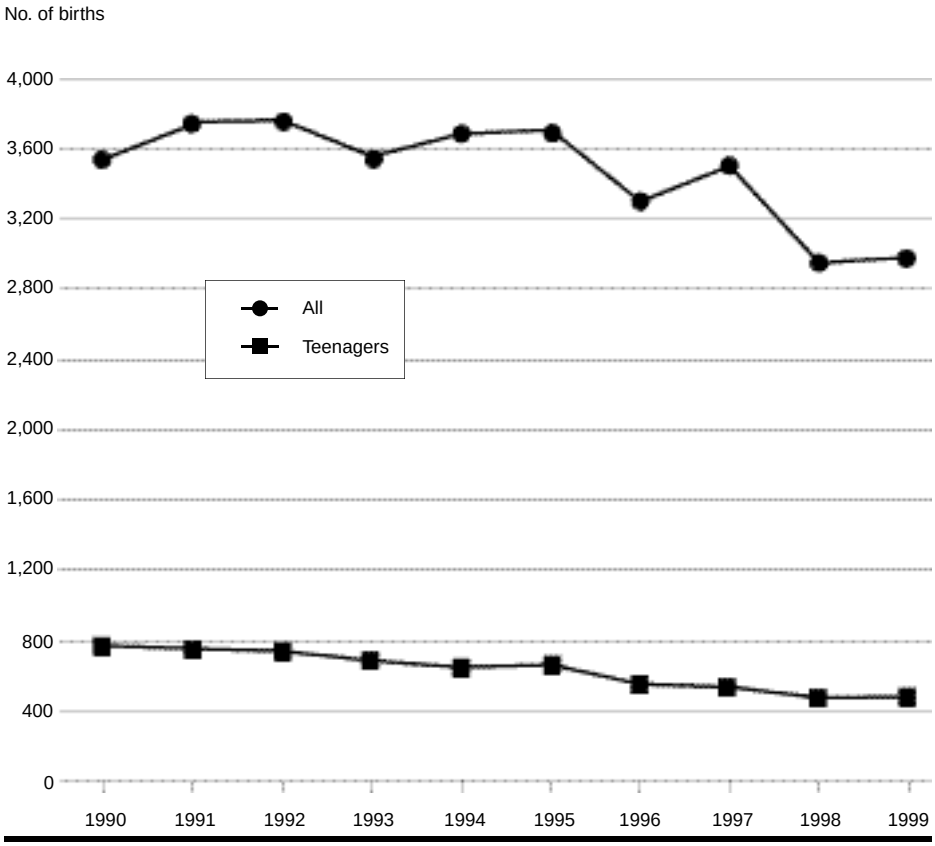
*Of women who were using a family planning method in 1995, 28% reported receiving their method from an SLPPA clinic, 25% from a Ministry of Health clinic, 40% from private doctors and 7% from other sources. Many people prefer private doctors so as to avoid any embarrassment that might be associated with being seen going to a family planning clinic. Our service statistics do not include either Ministry of Health clinics or private physician visits.

†This estimate is derived from the 1991 census and is based on the government's revised population estimate for 1992 of 36,981 women in this age range and on an annual rate of natural increase of 1.9%.

‡The cumulative increase was obtained by calculating the difference between the number of new acceptors in 1995 and each subsequent year, and then adding the differences together.

§For births overall, the slope of a linear regression of births vs. years for 1990–1995 is not significantly different from zero; the slope of a linear regression of births vs. years for 1995–1999 is –180 births per year (R^2=.77, p=.06). For births to teenagers, the slopes are –26 (R^2=.90, p<.01) for the earlier period and –44 (R^2=.85, p=.03) for the later years.

Figure 2. Number of births to all women and teenage women in St. Lucia, 1990–1999



Listeners' Responses

About 10 people called the *Apwe Plezi* hot line each week. Some offered advice to the characters (e.g., suggesting that one character put her child up for adoption); others gave compelling testimony about how they had suffered similar fates to those of the characters, including beatings and rape by their partner. One unidentified caller said: "He has been beating me, abusing me and harassing me. I went to the police, they say they coming, but they haven't done that.…It has been about 10 months since he has been beating me.…I don't know what to do.…Call me."

In response to callers' apparent need for counseling, SLPPA established a counseling telephone line in October 1996. The counseling telephone line received 6–10 calls per day, for a total of 1,200 calls as of August 1997. These calls can have been stimulated only by the radio soap opera, since it was the only place the telephone line was advertised, and they represent about 2% of the total adult population of St. Lucia (assuming they include no repeat callers).

Discussion

Exposure to *Apwe Plezi* was high, and the program developed a loyal audience of regular listeners of about 12% of the adult population of St. Lucia. Similar entertainment-education radio programs have had listenerships of 23% in Tanzania[23] and 6% in Uttar Pradesh, India.[24] Exposure levels are likely the result of a mixed effect of access to radio and competition with other media programs, including television programs. Listenership to *Apwe Plezi* was probably reduced somewhat by two sources of competition: a very popular television soap opera, *The Young and the Restless*, that aired at the same time as *Apwe Plezi* during part of each year; and a very popular FM commercial radio station, Helen 100, which began broadcasting after 1995. Because a program's effects are proportional to its audience size, producers of entertainment-education programs must be very careful to select media, channels and time slots that will maximize exposure to the intended audience.

Comments made during focus groups illustrate that the appeal of the radio program lay in both its local nature and its educational content:[25]

"I think it is local, and that is what I liked the most. It really is St. Lucian. When you look at programs both on TV and radio, they are all foreign. I think it was good to have a local program that spoke the language that we know."—*35-year-old woman*

"I would continue to listen [to *Apwe Plezi*] because it really bringing the messages out in a good way. I know that is what they doing, you know...they using the soap opera to send messages. Only one thing I want is for them to let Tony [a negative character] suffer more."—*37-year-old woman*

We speculate that the nonprescriptive nature of the entertainment-education strategy increases its acceptability among diverse audiences.

The radio program is likely to have the strongest influence on those individuals who listen most regularly, less influence on those who listen infrequently and even less on those who are not directly exposed to the program. Our self-report data support this relationship: Regular listeners indicated that they learned more, changed their attitude more and changed their behavior more than casual listeners. This relationship is also supported by our survey data: For those variables that show a relationship among listenership categories, the response is generally larger for regular listeners than for nonlisteners.

An upper bound on the magnitude of expected effects among the general population is imposed by the size of the audience, especially for regular listeners. For example, in a controlled field study of an entertainment-education radio soap opera in Tanzania, the magnitude of change in several dependent variables was correlated with the magnitude of the audience in different geographic areas, and a population-level increase of 10 percentage points in the current use of a family planning method by married women in the treatment area was associated with a listenership to the soap opera of 53% in the treatment area.[26]

Further, it must be assumed that some portion of the audience will know about, agree with or practice the intended behaviors prior to the intervention, and therefore will not be persuaded by the program. A program is most likely to influence regular listeners who do not already agree with or practice the promoted educational themes. In the pretest sample, 53% of adult women who were in a sexual union were practicing family planning. In the posttest, 16% of women were regular listeners. If one assumes that 53% of *Apwe Plezi*'s regular female listeners were already practicing family planning before the program began broadcasting, and if one assumes that all nonusers who listened regularly to *Apwe Plezi* adopted family planning between the pretest and posttest

surveys, then the maximum change in contraceptive use that we might have observed among women in union in the general population would be about eight percentage points, or from 53% to 61%.

We observed much less change (one percentage point). This is not surprising, since it is unreasonable to assume that any program could have 100% efficiency. On the basis of the self-reports that 14% of regular female listeners adopted family planning because of listening to *Apwe Plezi*, we have shown that we might have expected an increase of about two percentage points among women in union in the general population. For a statistical test to have an 80% chance of detecting a five-point difference between two samples would require a sample size of approximately 1,600 in each year, as opposed to our sample sizes of 753 and 1,238; to reliably detect a smaller change would require an even larger sample.[27]

Although our survey data show neither a significant increase in current use of family planning methods nor a decline in the proportion of women who were currently pregnant, clinic data indicate that contraceptive demand and attendance at SLPPA clinics have risen, and national statistics reveal fertility declines. On the basis of the population estimates we used earlier, the numbers of births shown in Figure 2 and the 75% chance that a woman giving birth in any year would be pregnant at the time of a survey, we calculate that the proportion of women who have indicated that they were pregnant at the time of a survey should have declined from about 7.1% in 1995 to 5.9% in 1997–1998. Our surveys' failure to detect this decline is likely attributable to a lack of statistical power to be able to measure such small changes.

Interestingly, if the one-point increase in current use of a family planning method that we measured is accurate (even though it is not statistically significant), it corresponds with the decline of 1.2 percentage points in the proportion of women one would expect to be pregnant at the time of a survey. Further, given St. Lucia's historically high rate of unplanned pregnancy and moderately high rate of contraceptive prevalence, a declining fertility rate is possible without a concomitant increase in contraceptive prevalence if use is increasingly consistent, effective or correct.

The lack of statistical power caused by small sample sizes is particularly important in our comparisons of listenership categories, since only 151 participants were regular listeners. Thus, an important limitation of our study is that the sample sizes used in the quantitative surveys lacked the statistical power to detect changes of a magnitude that it would be reasonable to expect, given the size of the audience and the baseline levels of many dependent variables. Nonetheless, our multivariate analyses show a positive association of time with six dependent variables and a positive association of listenership category with six dependent variables while controlling for relevant independent variables, supporting the hypothesis that *Apwe Plezi* influenced these dependent variables. The evidence is strongest that *Apwe Plezi* influenced awareness of the term "catapult," ideal number of children, the unacceptability of married men's having multiple sex partners, the unacceptability of women's having multiple sex partners before marriage, the proportion of people who feel that a wife needs her husband's consent to work, the proportion of people who feel that parents should impose their will on children and trust of family planning clinic workers.

Listeners' own reports of an effect of *Apwe Plezi* show a classic hierarchy of effects: The program has its greatest impact on knowledge, less impact on attitude change and even less impact on behavior change.[28] This hierarchy is consistent with other findings,[29] although the degree of decline between levels of the hierarchy is less than is anticipated in some other studies.[30] By comparing our self-reports for behavior change with other independent estimates for the same behavior change (e.g., the change in family planning use by women from pretest to posttest, and the number of new acceptors at SLPPA clinics), we find that the self-reports are roughly equal to the independent estimates, suggesting that the self-reports are not consistently overstated and may, in fact, understate some effects.

Among knowledge variables, it is clear that *Apwe Plezi*'s use of the term "catapult" played an important role in the early diffusion of awareness of the new condom. Part of this diffusion occurred via interpersonal communication about this term. However, by the time of the 1998 survey, other mechanisms of diffusion, including the displaying of 1,000 posters, may have played a role, since listeners and nonlisteners were equally likely to know what "catapult" meant. Surprisingly, overall awareness of the term did not increase significantly from 1997 to 1998. Between December 1997 and the end of 1998, about 10,000 Catapult condoms were sold, including approximately 300 per month in one district where the demand for condoms had been near zero previously.[31]

This rather unusual form of social marketing influenced both new demand for condoms and brand-switching, as SLPPA noted a decline in demand for other types of condoms in exchange for Catapult. Condom imports increased dramatically from 1998 to 1999, more than demand for chemical contraceptives or visits to SLPPA clinics, likely reflecting the dual function of condoms in preventing unwanted pregnancy and STDs. Users seemed satisfied that Catapult condoms met their needs, even though the condoms were substantially the same as the ones that the SLPPA had distributed previously. One man said in an interview, "I feel more secure when I use it, I know it will not burst." Another said, "I prefer Catapult to other brands."

Ample evidence indicates that *Apwe Plezi* stimulated a great deal of discussion, which is an important mechanism of behavior change for entertainment-education programs.[32] We found that twice as many people had heard of *Apwe Plezi* as had actually listened to it (which could be a result of advertising), 13% of nonlisteners knew the definition of "catapult" in 1997 and many listeners in both the surveys and the focus groups said they talked about the radio program and its educational content.* It is surprising that the proportions of respondents who reported talking to their spouse or partner, same-sex friends and family planning workers about family planning declined, given evidence that *Apwe Plezi* stimulated such discussions among listeners. These declines remain unexplained.

The problem of listener ambivalence about some of the negative characters (e.g., Tony and Chester) was identified early in the monitoring focus groups. In response, the scriptwriter exaggerated the negative aspects of these characters and ultimately punished them by giving Tony HIV and having Chester be stabbed to death while in prison, but this did not diminish the listeners' opinions of them. The ambivalence about these characters' moral stature may reflect strong conflict about the nature of gender and sexual relations in St. Lucia, which is illustrated by these two quotes from focus-group participants asked about Chester's rape scene:[33]

*In fact, the diffusion of knowledge about Catapult condoms in 1997 suggests that listeners must have talked to nonlisteners about the program content. This diffusion may have contaminated our statistical comparisons of listenership categories, but it is difficult to know how large this effect may have been for other dependent variables.

"I don't understand how they arrested the man for demanding sex from his woman."—*27-year-old man*

"I remember when a fella rape a girl by the beach. That brought one argument between me and my boyfriend."—*19-year-old woman*

Regardless, the issue of oppositional reading of characters provides a lesson on the importance of monitoring listener perceptions of characters and making adjustments to the scripts to limit the potential negative effects of misperceptions among listeners.

The strength of this study lies not in any one analysis, since each of our data sources and analyses suffers from some serious validity threat, but in the confluence of the majority of our findings, which tend to reinforce each other. Self-reports of family planning adoption by listeners; a slight, although nonsignificant, increase in the use of contraceptives by women in our surveys; increases in the importation of contraceptives, especially condoms; increases in the number of visits to SLPPA clinics; and a decline in the number of births—all are consistent with an *Apwe Plezi* effect on family planning behavior in St. Lucia. The lack of alternative explanations for these changes, such as other intervention initiatives during the period of study, strengthens the assertion that *Apwe Plezi* had an effect. We conclude that entertainment-education programs can play an important role in motivating individuals to plan their families in a nation such as St. Lucia, but that expectations for such programs must be based on realistic projections of audience size.

Appendix: Multivariate Results

Table 2 presents the findings of our multivariate logistic regression results for the key independent variables, time and listenership category. Here, we present results for control variables (odds ratios and coefficients from analyses of variance, respectively, for categorical and continuous variables) that also had significant effects. Dichotomous variables were coded 1 if the following characteristics were present and –1 otherwise: Catholic; not in union; family planning not available; condoms not available; speak Creole at home; urban residence (vs. suburban); rural residence (vs. suburban); primary education or less; secondary education; no radio; male; does not listen to Radio St. Lucia often; does not listen to Radio Helen 100 often.

Pill awareness—over time: religion (1.2, p=.02), sexual union (0.9, p=.03), parity (1.1, p<.01), family planning availability (0.7, p<.01), condom availability (0.7, p<.01); by listenership category: religion (1.2, p=.04), family planning availability (0.8, p<.01), condom availability (0.7, p<.01), age (1.0, p<.01). **Know the term "catapult"—**by listenership category: primary education (0.6, p<.01), listen to Radio Helen (1.2, p=.01). **Know HIV is spread by homosexual intercourse—**over time: religion (1.2, p=.04), speak Creole at home (0.8, p=.01); by listenership category: religion (1.3, p=.02). **Believe HIV is spread by caring for AIDS patient—**over time: religion (0.9, p=.01), family planning availability (0.9, p= .02), urban residence (0.7, p<.01); by listenership category: urban residence (0.7, p<.01), primary education (0.8, p=.03), listen to Radio Helen (0.9, p=.03). **Believe it is possible to determine one's family size—**over time: family planning availability (0.7, p<.01), speak Creole at home (0.8, p<.01), age (1.0, p<.01), primary education (0.7, p<.01), radio ownership (0.7, p<.01); by listenership category: family planning availability (0.7, p<.01), speak Creole at home (0.8, p<.01), age (1.0, p<.01), primary education (0.7, p<.01), radio ownership (0.7, p<.01). **Ideal age for women's first birth—**over time: sexual union (–0.2, p=.05), speak Creole at home (–0.3, p<.01), urban residence (0.3, p=.05), rural residence (–0.6, p<.01), primary education (–0.4, p=.02), gender (–0.2, p=.05), parity (–0.1, p<.01); by listenership category: speak Creole at home (–0.4, p<.01), parity (–0.1, p<.01), rural residence (–0.6, p<.01). **Ideal number of children—**over time: sexual union (0.1, p=.05), speak Creole at home (0.1, p=.04), gender (0.2, p<.01), listen to Radio St. Lucia (–0.2, p=.02), listen to Radio Helen (0.2, p=.04), parity (0.2, p<.01); by listenership category: sexual union (0.2, p=.03), speak Creole at home (0.2, p=.04), gender (0.3, p<.01), sexual union (0.2, p=.03), listen to Radio St. Lucia (–0.2, p=.03), listen to Radio Helen (0.2, p=.04), parity (0.2, p<.01), age (0.1, p=.04). **Believe married men can have other sexual partners—**over time: condom availability (0.7, p<.01), gender (1.4, p<.01); by listenership category: condom availability (0.7, p=.02), gender (1.6, p<.01), speak Creole at home (1.4, p<.01), parity (1.1, p<.01). **Believe women can have multiple sexual partners before marriage—**over time: religion (1.4, p<.01), rural residence (1.2, p<.01), primary education (0.8, p=.01), gender (1.2, p<.01); by listenership category: religion (1.5, p<.01), gender (1.2, p=.02), listen to Radio Helen (0.9, p=.04). **Believe a wife needs her husband's consent to work—**over time: parity (1.1, p<.01), condom availability (0.8, p=.03), rural residence (1.2, p=.02), primary education (1.3, p<.01), gender (1.4, p<.01), listen to Radio St. Lucia (1.2, p<.01); by listenership category: parity (1.1, p<.01), condom availability (0.8, p=.04), gender (1.4, p<.01), listen to Radio St. Lucia (1.2, p<.01). **Believe parents should impose their will on children—**over time: sexual union (0.8, p<.01), age (1.0, p<.01), primary education (1.3, p<.01), gender (0.9, p=.05); by listenership category: sexual union (0.8, p<.01), age (1.0, p<.01). **Intend to use family planning—**over time: religion (1.3, p<.01), condom availability (0.7, p<.01), family planning availability (0.7, p<.01), rural residence (0.7, p<.01), age (0.9, p<.01); by listenership category: religion (1.3, p<.01), condom availability (0.6, p<.01), family planning availability (0.7, p<.01), rural residence (0.7, p=.01), age (0.9, p<.01), primary education (0.7, p=.02). **Trust staff at family planning clinics—**over time: religion (1.3, p<.01), listen to Radio Helen (0.8, p<.01), family planning availability (0.8, p=.01); by listenership category: sexual union (0.8, p<.01), listen to Radio Helen (0.8, p=.04), family planning availability (0.7, p<.01). **Talked to spouse/partner about family planning—**over time: religion (1.2, p<.01), sexual union (0.6, p<.01), family planning availability (0.6, p<.01), primary education (0.7, p<.01); by listenership category: religion (1.2, p=.01), sexual union (0.6, p<.01), family planning availability (0.6, p<.01), primary education (0.7, p<.01). **Talked to same-sex friend about family planning—**over time: religion (1.2, p=.01), sexual union (0.8, p<.01), family planning availability (0.8, p<.01), condom availability (0.8, p<.01), speak Creole at home (0.9, p=.01), age (1.0, p<.01), radio ownership (0.8, p=.01); by listenership category: religion (1.3, p<.01), family planning availability (0.7, p<.01), radio ownership (0.8, p=.02), gender (0.9, p=.01). **Talked to a family planning worker—**over time: religion (1.2, p<.01), sexual union (0.7, p<.01), family planning availability (0.7, p<.01), parity (1.1, p=.02), speak Creole at home (1.1, p=.04), urban residence (1.2, p=.02), rural residence (0.8, p=.04), gender (0.7, p<.01); by listenership category: religion (1.2, p=.02), sexual union (0.7, p<.01), family planning availability (0.7, p<.01), parity (1.1, p=.01), rural residence (0.8, p<.01), gender (0.7, p<.01). **Use modern family planning method—**over time: condom availability (0.6, p<.01), age (1.0, p=.03), secondary education (1.8, p<.01); by listenership category: condom availability (0.6, p<.01), secondary education (2.2, p<.01). **Pregnant/partner pregnant—**over time: sexual union (0.5, p<.01), age (1.0, p=.01), gender (1.3, p<.01), listen to Radio Helen (1.3, p=.02); by listenership category: sexual union (0.6, p<.01), gender (1.3, p=.04), listen to Radio Helen (1.3, p=.05). **STD prevention is main reason for using family planning—**over time: sexual union (1.8, p<.01), parity (0.8, p=.02), primary education (1.9, p<.01), gender (1.5, p<.01), listen to Radio St. Lucia (1.6, p<.01); by listenership category: sexual union (1.7, p<.01), primary education (1.7, p<.01), gender (1.5, p<.01), listen to Radio St. Lucia (1.6, p<.01), age (1.0, p=.03).

References

1. Nariman HN, *Soap Operas for Social Change: Toward a Methodology for Entertainment-Education Television*, Westport, CT, USA: Praeger, 1993; Piotrow PT et al., *Family Planning Communication: Lessons for Public Health*, New York: Praeger, 1997; and Singhal A and Rogers EM, *Entertainment-Education: A Communication Strategy for Social Change*, Mahwah, NJ, USA: Lawrence Erlbaum Associates, 1999.

2. Bandura A, *Social Learning Theory*, New York: Prentice-Hall, 1977; and Bandura A, *Self-Efficacy: The Exercise of Control*, New York: Freeman, 1977.

3. Galavotti C et al., Validation of measures of condom and other contraceptive use among women at high risk for HIV infection and unintended pregnancy, *Health Psychology*, 1995, 14(6):570–578.

4. Piotrow PT et al., Mass media family planning promotion in three Nigerian cities, *Studies in Family Planning*, 1990, 21(5):265–274; Rogers EM et al., Effects of an entertainment-education radio soap opera on family planning behavior in Tanzania, *Studies in Family Planning*, 1999, 30(3):193–211; Singhal A and Rogers EM, 1999, op. cit. (see reference 1); Valente TW et al., Radio promotion of family planning in the Gambia, *International Family Planning Perspectives*, 1994, 20(3):96–100; and Vaughan PW et al., Entertainment-education and HIV/AIDS prevention: a field experiment in Tanzania, *Journal of Health Communication*, 2000, 5(Supplement):81–100.

5. Yoder PS, Hornik R and Chirwa BC, Evaluating the program effects of a radio drama about AIDS in Zambia, *Studies in Family Planning*, 1996, 27(4):188–203.

6. Sherry JL, Prosocial soap operas for development: a review of research and theory, *Journal of International Communication*, 1997, 4(2):75–101.

7. Regis A and Butler P, RESPONSIBILITY 6: Researching and evaluating St. Lucia's population "problem" offers new solutions in broadcasting on lifestyle issues for today's youth, Castries, St. Lucia: RARE Center, 1997.

8. Registrar of Civil Status and Statistics Department, *1991*

Census, Volume 3: Living Arrangements and Fertility, Castries, St. Lucia: Government of St. Lucia, 1994.

9. Population Reference Bureau (PRB), *2000 World Population Data Sheet*, Washington, DC: PRB, 2000.

10. Statistics Department, *Vital Statistics Report, 1992*, Castries, St. Lucia: Government of St. Lucia, 1993; and PRB, *World Population Data Sheet, 1997*, Washington, DC: PRB, 1997.

11. Jagdeo TP, Contraceptive prevalence in Saint Lucia, Castries, St. Lucia: International Planned Parenthood Federation, 1990; and PRB, 1997, op. cit. (see reference 10).

12. Jagdeo TP, 1990, op. cit. (see reference 11).

13. Statistics Department, *Vital Statistics Report, 1993*, Castries, St. Lucia: Government of St. Lucia, 1994.

14. Ebanks GE, Mortality, Fertility and Family Planning in Dominica and Saint Lucia, London, Ontario, Canada: University of Western Ontario, 1985.

15. Ministry of Legal Affairs and Women's Affairs, National report on the status of women, United Nations Fourth Conference on Women, Beijing, China, Castries, St. Lucia: Government of St. Lucia, 1994.

16. PRB, 1997, op. cit. (see reference 10).

17. Bertrand JT, Magnani RJ and Rutenberg N, *Evaluating Family Planning Programs: With Adaptations for Reproductive Health*, Chapel Hill, NC, USA: Carolina Population Center, 1996.

18. Vidmar N and Rokeach M, Archie Bunker's bigotry: a study in selective perception and exposure, *Journal of Communication*, 1974, 24(1):36–47.

19. Regis A and Butler P, 1997, op. cit. (see reference 7).

20. Regis A and Butler P, RESPONSIBILITY 9: researching and evaluating St. Lucia's population "problem" offers new solutions in broadcasting on lifestyle issues for today's youth, Castries, St. Lucia: RARE Center, 1999.

21. Ibid.

22. George A, executive director, St. Lucia Planned Parenthood Association, personal communication, July 1998.

23. Rogers EM et al., 1999, op. cit. (see reference 4).

24. Law S and Singhal A, Efficacy in letter-writing to an entertainment-education radio serial, *Gazette*, 1999, 61(5):355–372.

25. Regis A and Butler P, 1997, op. cit. (see reference 7).

26. Rogers EM et al., 1999, op. cit. (see reference 4).

27. Sokal RR and Rohlf FJ, *Biometry: The Principles and Practice of Statistics in Biological Research*, second ed., New York: W.H. Freeman, 1980.

28. McGuire WJ, Theoretical foundations of campaigns, in: Rice RE and Atkin CK, eds., *Public Communication Campaigns*, Newbury Park, CA, USA: Sage, 1989.

29. Lettenmaier C et al., Africa: using radio soap operas to promote family planning, *Hygie*, 1993, 12(1):5–10.

30. Sherry JL, 1997, op. cit. (see reference 6).

31. George A, executive director, St. Lucia Planned Parenthood Association, personal communication, July 1998.

32. Rogers EM et al., 1999, op. cit. (see reference 4).

33. Regis A and Butler P, 1997, op. cit. (see reference 7).

Resumen

Contexto: *Desde febrero de 1996 a septiembre de 1998, se difundió en la isla caribeña de Santa Lucía una novela radial de entretenimiento, y a la vez educativa, titulada* Apwe Plezi. *Este programa promovía la planificación familiar, la prevención del virus que causa el SIDA y otros temas de desarrollo social.*

Métodos: *El impacto del programa fue evaluado mediante análisis de datos representativos a nivel nacional de encuestas de pre-prueba y post-prueba, y mediante discusiones de grupos focales y otras fuentes de datos cualitativos y cuantitativos.*

Resultados: *Entre los 1,238 entrevistados en la encuesta de post-prueba, el 35% habían escuchado el programa* Apwe Plezi, *y dentro de este grupo, el 12% lo había escuchado por lo menos una vez a la semana. Los análisis de multivariables indican que las variables sobre conocimiento, actitud y comportamiento, variaron significativamente con el tiempo (pre-prueba contra post-prueba) y según la frecuencia de audición al programa. Por ejemplo, el 16% de los entrevistados en la encuesta de post-prueba conocían un término en jerga popular para denominar al condón, el cual fue acuñado para el programa radial; y el porcentaje de entrevistados que consideraron aceptable que los hombres casados tuvieran relaciones sexuales fuera del matrimonio declinó del 27% en la pre-prueba al 14% en la post-prueba. Al comparar a las personas que no habían escuchado el programa con los oyentes regulares, estos últimos eran más proclives a confiar en los trabajadores de planificación familiar (83% contra 72%) y era más bajo el número de hijos que éstos consideraban ideal (2,5 contra 2,9). El 14% de los oyentes adoptaron un método de planificación familiar como resultado del programa radial.*

Conclusiones: Apwe Plezi *influyó en que los oyentes adquirieran una mayor conciencia con respecto a los métodos anticonceptivos, en que mejoren sus actitudes con respecto a la fidelidad y a las relaciones familiares, y que adopten un método anticonceptivo. Entre las lecciones importantes obtenidas para los productores de programas de entretenimiento y educación, se incluyen que el alcance que tenga el programa—y asimismo su impacto—pueden verse limitado por la competencia con otros progamas, y que es esencial vigilar las percepciones de los oyentes para detectar y corregir los posibles errores de interpretación de los mensajes.*

Résumé

Contexte: *Un feuilleton radiophonique mélodramatique à dessein éducatif,* Apwe Plezi, *a été diffusé, de février 1996 à septembre 1998, à Sainte-Lucie. Le programme mettait l'accent sur le planning familial et la prévention du VIH, entre autres thèmes de développement social.*

Méthodes: *Les effets du programme ont été évalués par l'analyse des données recueillies dans le cadre d'enquêtes préalables et postérieures à l'essai, de discussions de groupe et d'autres sources qualitatives et quantitatives.*

Résultats: *Des 753 répondants à l'enquête postérieure à l'essai, 36% avaient écouté* Apwe Plezi, *et 12% l'avait écouté au moins une fois par semaine. Les analyses multivariées révèlent l'effet significatif des facteurs temps et catégorie d'auditeurs sur plusieurs variables de connaissance, de perception et de comportement. Ainsi, 16% des répondants à l'enquête postérieure connaissaient un terme d'argot créé spécifiquement pour le feuilleton, pour désigner le préservatif, et les proportions de répondants qui jugeaient acceptables les rapports sexuels des maris en dehors de leur union conjugale avaient diminué, de 27% avant l'essai à 14% lors de l'enquête postérieure. Par rapport aux non-auditeurs, les auditeurs réguliers étaient plus susceptibles de faire confiance aux prestataires du planning familial (83% par rapport à 72%) et considéraient comme idéal un nombre d'enfants significativement moindre (2,5 par rapport à 2,9). Quatorze pour cent des auditeurs avaient adopté une méthode de planning familial sous l'effet du feuilleton.*

Conclusion: Apwe Plezi *a influencé les auditeurs en termes d''accroissement de leur sensibilisation à la contraception, d'amélioration de leurs perceptions de la fidélité et des relations familiales et de l'adoption de méthodes de planning familial. Les importantes leçons à tirer par les réalisateurs de programmes de divertissement éducatif incluent le fait que la portée du programme, et donc ses effets, peuvent être limités par la concurrence d'autres émissions, et que le contrôle des perceptions des auditeurs est essentiel à la détection et à la rectification des interprétations parfois erronées des messages diffusés.*