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J Health Commun. 2014 ; 19(2): 152–169. doi:10.1080/10810730.2013.811318.**Development and Implementation of Mass Media Campaigns to Delay Sexual Initiation Among African American and White Youth****SETH M. NOAR,**

School of Journalism and Mass Communication and Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

RICK S. ZIMMERMAN,

College of Nursing, University of Missouri–St. Louis, St. Louis, Missouri, USA

PHILIP PALMGREEN,

Department of Communication, University of Kentucky, Lexington, Kentucky, USA

PAMELA K. CUPP,

Department of Communication, University of Kentucky, Lexington, Kentucky, USA

BRENIKKI R. FLOYD, and

Department of Psychiatry, University of Illinois at Chicago, Chicago, Illinois, USA

PURNIMA MEHROTRA

Department of Community Medicine and Health, University of Connecticut, Storrs, Connecticut, USA

Abstract

Reducing new HIV/STD infections among at-risk adolescents requires developing and evaluating evidence-based health communication approaches. Research over-whelmingly supports the conclusion that early sexual initiation is associated with STDs and other negative outcomes in later years (e.g., unintended pregnancy). The authors' research group secured funding from the National Institute of Mental Health to develop, implement, and rigorously evaluate televised mass media campaigns to delay initiation of sexual intercourse among African American and White adolescents in two cities in the Southeastern United States. The focus of the present study is on the development and implementation of the campaigns, including (a) rationale and theoretical underpinnings; (b) collection, screening, and assessment of existing public service announcements; (c) development of new public service announcements; (d) study design and campaign airing plan; and (e) message exposure achieved in the campaigns. Health communication campaigns hold much promise in reaching at-risk adolescent populations with targeted, timely, and relevant risk-reduction messages.

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Address correspondence to Seth M. Noar, School of Journalism and Mass Communication, 363 Carroll Hall, CB 3365, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA. noar@email.unc.edu.

Reducing new HIV and STD infections among African American and other at-risk (e.g., high sensation-seeking) adolescents requires urgent action. While HIV prevention behavioral interventions to date have been primarily focused at the individual level (Darbes, Crepaz, Lyles, Kennedy, & Rutherford, 2008; DiClemente, Salazar, & Crosby, 2007; Johnson, Carey, Marsh, Levin, & Scott-Sheldon, 2003), recent writings have noted the limitations of this approach and the need to rigorously test broader community-level strategies (DiClemente, Crosby, Wingood, Trickett, & Pequegnat, 2005; DiClemente, et al., 2007; Zimmerman, Palmgreen, et al., 2007). This call to action comes as recent HIV/AIDS campaign studies indicate promise for mass media campaigns as a behavior change strategy (Noar, Palmgreen, Chabot, Dobransky, & Zimmerman, 2009).

Although work in areas such as smoking cessation and substance use prevention have nicely demonstrated the effective use of mass media (Flynn et al., 1994; Slater et al., 2006), additional work in the HIV/AIDS area is greatly needed. The purpose of the present study was to develop, implement, and rigorously evaluate mass media campaigns to delay initiation of sexual intercourse among high sensation-seeking African-American and White adolescents in the Southeastern United States. The campaigns were conducted at different points in time in two cities—Charleston, South Carolina, and Augusta, Georgia—with both cities serving as a comparison for each other. The present article describes the formative development and implementation of the campaigns and is divided into five sections: (a) rationale and theoretical underpinnings of the campaigns; (b) collection, screening and assessment of existing public service announcements (PSAs) in the delay of sex area; (c) development of new PSAs for the campaigns; (d) study design and campaign airing plan; and (e) message exposure achieved in the campaigns. An overview of these campaign development activities, and their relation to Atkin and Freimuth's (2001) phases of formative research, appear in Table 1.

Rationale and Theoretical Underpinnings

Research overwhelmingly supports the conclusion that early sexual initiation is associated with a number of risky and unhealthy sexual outcomes in later years. Such research demonstrates that those that initiate earlier are more likely to have multiple sex partners, more risky partners, to use condoms less, and to have higher rates of unplanned pregnancy, STDs, and HIV (Coker et al., 1994; Greenberg, Magder, & Aral, 1992; O'Donnell, O'Donnell, & Stueve, 2001; Pettifor, van der Straten, Dunbar, Shiboski, & Padian, 2004). If the age that adolescents initiate sexual intercourse at the population level can be delayed, a number of these negative consequences could potentially be delayed or even avoided altogether.

Multiple Domain Model

A broad set of variables that have been found to be associated with initiation of sexual activity are included in the multiple domain model (MDM) of health-related behavior (Zimmerman, Noar, et al., 2007). The MDM suggests that five domains of variables influence health-related behavior, including (a) social structural variables; (b) individual difference variables; (c) social environmental variables; (d) social psychological variables;

and (e) situational/contextual variables. The model also suggests a causal structure with regard to how these domains relate to one another (Zimmerman et al., 2007).

The implications of the MDM for the campaigns were twofold. First, several key variables from the model were used as targeting variables, including race, gender, and sensation-seeking. These variables allowed us to divide the population into audience segments and target specific messages to these differing segments. Second, several social psychological variables from the model, including attitudes, norms, self-efficacy, and skills, were used in the design of campaign messages. These variables served as the theoretical determinants to change and thus informed the content of the messages.

Sensation-Seeking Targeting

Whereas the MDM provided guidance on what theoretical determinants to change, sensation-seeking targeting (Palmgreen & Donohew, 2003) was used to guide how messages could change those determinants. *Sensation-seeking* is defined as “the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal, and financial risks for the sake of such experience” (Zuckerman, 1994, p. 27). High sensation-seekers are more likely to engage in a number of risky behaviors (Zuckerman, 1994), including a host of risky sexual behaviors (Hoyle et al., 2000).

Research demonstrates that high sensation-seekers have distinct and consistent preferences for particular kinds of messages based on their needs for the novel, the unusual and the intense (Donohew, Lorch, & Palmgreen, 1991). High sensation-seekers prefer messages which are high in *message sensation value*—messages whose content and formal features elicit strong sensory, affective, and arousal responses (Palmgreen et al., 1991). High sensation value messages are often dramatic, feature fast cuts and intense sound, and notably contain novelty and a lack of preachy messaging. Campaigns that have been based on sensation-seeking targeting have previously shown significant impacts on both marijuana use and condom use behaviors (Palmgreen, Donohew, Lorch, Hoyle, & Stephenson, 2001; Zimmerman, Palmgreen, et al., 2007). The present campaign effort used the sensation-seeking targeting campaign strategy by selecting and developing PSAs that were high in message sensation value.

Collection, Screening, and Assessment of Existing PSAs

Before developing our own original PSAs for the campaigns, we undertook a major PSA collection effort. We sought existing 30-second televised PSAs that targeted White and/or African American adolescents and focused on attempting to persuade this audience to delay initiation of first sexual activity. Through the existing PSAs and the original PSA development effort, our aim was to collect a mix of ads targeting these different groups—some targeting boys, girls, or both, and some targeting African Americans, Whites, or both. Because the campaign targeted both gender and racial groups, we hoped to gather and develop enough ads that some messages would resonate with each of these audience segments (i.e., African American boys, African American girls, White boys, White girls).

As previously indicated, the goal of the campaigns was to delay sexual initiation among African-American and White youth beyond what it would have been without such a campaign. The goal was not to persuade youth to abstain from sex until marriage, which is typically the focus of an abstinence-only approach. However, our search was very broad and did include any and all delay or abstinence PSAs. During the screening process, we determined which PSAs would and would not fit within the context of the campaigns.

Given that there is no central repository for PSAs, we used several search techniques to find PSAs. First, we conducted a thorough search of the academic literature in this area. From those results, we contacted multiple researchers who had published in this area and asked them for PSAs that they had on hand as well as any and all leads that could be helpful in attaining PSAs in this area. Second, we contacted agencies that work in adolescent sexual health (e.g., The National Campaign to Prevent Teen and Unwanted Pregnancy) and asked for PSAs and leads on attaining additional PSAs. Third, we conducted Internet searches for actual PSAs and/or leads on relevant PSAs. We eventually gathered 61 PSAs that focused on sexual abstinence or delay of initiation of sexual activity from a variety of researchers, practitioners, and agencies.

Once we collected the PSAs, we undertook a group process to evaluate them for potential use in the campaigns (Noar, Palmgreen, Zimmerman, & Cupp, 2008). Our research team viewed all of the PSAs and evaluated them on the following: (a) targeting (e.g., gender, race); (b) theoretical determinants addressed (e.g., attitudes, norms, self-efficacy); (c) message sensation value; and (d) perceived effectiveness. Because there was very little—if any—existing data on these PSAs, we used our own research team ratings and internal discussions about the PSAs to make decisions regarding the PSAs. Corresponding to the four aforementioned areas, common reasons that PSAs were rejected for the campaigns included (a) ad did not target Whites or African Americans, our 11–14 age group, or adolescents at all; (b) ad focused only on raising awareness about the issue rather than behavior change; (c) low message sensation value; and (d) low perceived effectiveness at influencing adolescents to wait to have sex.

Through this process, we chose 10 PSAs from the original 61 that we believed showed potential for the campaigns. We purposefully chose a mix of PSAs targeting different audience segments so we had a diverse set of ads. PSAs were then used in message testing research with the target audience of 11–14-year-old African-American and White adolescents. We worked with two middle schools in Charleston, South Carolina, for this research (both were schools with high proportions of African Americans, and both were receptive to collaborating on the study). All students in the schools were offered the opportunity to participate in the study. To participate, they needed to submit a signed parental consent form and attend the session for which they were assigned (child consent was also obtained). Paper-and-pencil surveys were administered during designated class periods and during after-school hours to avoid students having to miss class. Although we intended to track response rates for this research, the logistics of conducting this work were such that we were unable to do so.

Surveys were administered to convenience samples of 343 adolescents during the 2006 spring semester. During this data collection process, we also assessed theoretical mediators of waiting to have sex (i.e., attitudes, norms, self-efficacy) to inform the development of new PSAs. Each PSA was shown on a large screen at the front of the room, one at a time, and then participants answered a series of questions regarding that PSA. The questions asked were derived from previous research (Noar, Palmgreen, Zimmerman, Lustria, & Lu, 2010) and were assessed on 5-point Likert scales. They included (a) perceived message sensation value (whether the ad was emotional, exciting, dramatic, powerful, intense); (b) personal utility (“Gave me ideas or skills I could use”; “Made me think of my own life”); (c) caught attention (“This ad would catch my attention”; “I would watch this ad more than once”); (d) liking (“I like this ad”); (e) credibility (“This ad is believable”; “This ad is truthful”); and (f) convincing (“This ad would help convince me to wait to have sex”; “This ad would help convince people my age to wait to have sex”). Each participant was provided transportation home if necessary, and received a US\$5 incentive for participating in the study.

Given that the campaigns were to be targeted to high sensation-seekers, here we report data on 157 high sensation-seeking youth, defined as above the median on the sensation-seeking scale, taking into account gender and race (Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2002). This sample consisted of 48% African Americans ($n = 75$) and 52% Whites ($n = 82$), 51% boys, and ranged in age from 11 to 16 years ($M = 13.17$, $SD = 1.00$). The majority of the participants (46%) were in the eighth grade, 37% were in the seventh grade, and 17% were in the sixth grade. Ratings of the PSAs on several key indicators (all on 5-point Likert scales) are reported in Table 2. As can be seen, the ads varied greatly on these various dimensions. Whereas ads such as “Morning Barrage” scored relatively low on perceived message sensation value and perceived message effectiveness (i.e., “convincing”), ads such as “The Big League” and “Brain Battle” scored higher on these dimensions. Also, we examined these data by gender and race, because some ads were specifically targeted to one race or gender. Using these data to inform our decision making, we chose the following four PSAs to use as part of our campaigns: “The Big League,” “Still Hungry,” “Brain Battle,” and “My Problem” (see Table 3 for descriptions and targeting dimensions of the ads). We subsequently contacted the producers of those PSAs and secured permission to use them in the televised PSA campaigns. Before using the ads in the campaigns, we modified them so that they had our tagline, which was “Wait for Sex. Your Future Is Worth It.”

Development of New PSAs

We also aimed to develop our own original PSAs using a systematic process (Noar et al., 2008). Although some campaign developers will use advertising agencies and other creative groups to develop PSAs (e.g., Ahrens et al., 2006), we have consistently developed our own PSA concepts as a research team (Noar et al., 2008). We start by focusing on our theoretical approach and the empirical data that we gathered. Then, the survey research mentioned earlier gave us some empirical data that revealed which attitudes, situations, and social influences might be most salient to focus on in the PSAs. For example, we found that the three (out of nine) most highly ranked reasons to have sex were the following: “if I had a boyfriend/girlfriend I loved,” “because I am curious to know what it is like,” and “to satisfy

my sexual desires.” The four (out of nine) most highly ranked reasons to not have sex were the following: “because I do not want to have a baby right now,” “because I don’t want to get AIDS or other diseases,” “because my parents would be angry,” and “because I don’t want to have a bad reputation.” Thus, we strategically incorporated these highly ranked reasons into the scripts for our original PSAs.

Working with theory and data, we developed and circulated a template with this PSA creation information to our research team. We also circulated examples of scripts and guidelines for writing promising PSAs to the team. Our research teams have normally consisted of faculty members and graduate research assistants. We have also typically brought in additional creative graduate students who wish to get experience with the PSA development process. Everyone is instructed to write as many PSA scripts as they wish, and these are compiled and then subsequently read by everyone on the team. Slogans for the campaign are also developed at this time.

This writing process ultimately resulted in approximately 25 scripts and a number of potential campaign slogans. A difficult task was to decide which scripts did and did not have a good chance of being promising PSAs. For this task, we used a rating sheet in which, on the basis of detailed knowledge of the project, members of the research team rated the PSAs and slogans for potential effectiveness (focusing on message sensation value, theory-based content, perceived message effectiveness, and other factors). During this decision-making process, we also considered the importance of having a mix of PSAs that would target our various audience segments.

As a result of this process, the seven most promising PSA scripts were chosen, and they were subsequently the topic of discussion at several meetings, where each aspect of the scripts (e.g., setting, characters, dialogue, music) was improved. When these final scripts were ready, focus groups with the target audience were conducted in order to gain target audience reactions to the scripts. Specifically, eight focus groups were conducted separately according to gender and race (African American and White) combinations (all were high sensation-seekers). The purpose of the groups was to garner reactions and suggestions to the seven PSA scripts and five potential campaign slogans that we had developed. As a result of the focus groups, the slogan (which appeared at the end of each PSA) “Wait for Sex. Your Future Is Worth It” was selected for the campaigns. Six of the PSAs were retained and significantly revised after taking into consideration focus group feedback (one PSA was discarded). An idea for an additional original PSA also emerged from the groups, which was subsequently developed into a script. We also recruited several individuals from the focus groups to act as target audience consultants to help with final changes to these seven original PSAs. Working closely with a local production company with significant experience producing PSAs, these seven ads were subsequently produced (see Table 4 for descriptions and targeting dimensions of the ads).

Assessment of New PSAs

What did the target audience ultimately think of the final, original PSAs developed for the campaign? To shed light on this question, we present data on ratings of these PSAs collected

from 558 high sensation-seeking adolescents during the precampaign phase of the study in Augusta. Recruitment details are described below. This sample was collected in the first 15 months of the time series survey (these are different adolescents than those reported on above for evaluating the existing PSAs). Measures used were the same as those used to rate existing PSAs selected for use in the campaigns. This sample consisted of 61% African Americans ($n = 338$) and 39% Whites ($n = 220$), 48% boys, and ages ranged from 12 to 17 years ($M = 14.09$, $SD = 1.00$). Students were in the 7th (15%, $n = 85$), 8th (31%, $n = 175$), 9th (41%, $n = 228$), and 10th (13%, $n = 70$) grades.

Ratings of the PSAs on several key indicators (all on 5-point Likert scales) are reported in Table 5. As can be seen, the ads varied on several of these dimensions. Whereas ads such as “Get a Good Night’s Sleep,” and “Just the Two of Us” scored the highest on perceived message effectiveness (i.e., “convincing”), “Time Out” scored the lowest on this dimension. Still, both perceived message effectiveness and perceived message sensation value ratings across the PSAs were higher than almost all of the ratings on the existing PSAs previously reported on. This indicates that we were successful in creating ads that were high in perceived message sensation value and ads that were potentially effective with the target audience. Ratings of the PSAs examined by gender and race (not shown here because of space considerations) were also examined to assess the extent to which ads targeted to particular gender and racial groups were perceived as effective with those groups.

Study Design and Campaign Airing Plan

To rigorously evaluate whether the media campaigns affected sexual initiation, we conducted a 21-month interrupted time series design with control community (see Figure 1). This design has been successfully applied in a number of previous campaign studies (Palmgreen, et al., 2001; Zimmerman, Palmgreen, et al., 2007), and these and other studies suggest that shorter, more intensive media campaigns may have a greater chance of being effective than longer, more diffuse campaigns (Noar, 2006). As can be seen, the design allows for several months of precampaign data to be collected in order to establish the secular trend for the behavior before campaigns are launched. Then, an intensive 3-month campaign takes place in the first city—in this case, Charleston, South Carolina—whereas the second city is used as a comparison (in this case, Augusta, Georgia). Last, a nearly identical campaign takes place in the second city and the first city is used as the comparison. This evaluation design has many advantages over the popular pre/post panel design—most critically, it reduces (or eliminates) several threats to internal validity (Noar, Palmgreen, & Zimmerman, 2009; Palmgreen, 2009).

As can be seen in Figure 1, the two PSA campaigns were aired during different time periods in two comparable top 125 Nielsen markets in the Southeastern United States (Charleston, South Carolina, and Augusta, Georgia). The Charleston campaign aired from September to November of 2007, while the Augusta campaign aired from March to May of 2008. In addition, the PSAs were aired in three stages: In the first month of the campaigns, spots that were aired focused on negative consequences of early sexual activity (e.g., “Just the Two of Us”). In the second month, spots that were aired focused on positive alternatives to sexual activity (e.g., “The Life Kara Wants”). In the third and final month, spots that were aired

focused on skills and preparatory behaviors (e.g., “Time Out”). These stages were based on the AIDS Risk Reduction Model (Catania, Kegeles, & Coates, 1990).

In the campaigns, a professional media buyer worked as our liaison to the television outlets. It is critical to note that we began a relationship early on with the media buyer and the outlets so that they were well informed of the project before we began selecting and developing our PSAs. This strategy allowed these gatekeepers to be partners in the project and allowed for any concerns to be voiced early on (e.g., concerns about appropriate content on air or rules regarding what types of ads could air when). Also, the fact that we would be buying airtime and also asking for donated airtime was raised early in the process. This way, a dialogue was started early, and any concerns could be raised, discussed, and resolved.

In each campaign, our media buyer strategically placed all PSAs in programming widely viewed by the target audience. It is important to note that spots targeted toward particular gender or racial groups were placed in programming that was viewed by those particular groups. Data on television channel and program preferences for high sensation-seekers, on which placement decisions were based, were collected during the precampaign survey (i.e., the first 9 months of the time series assessment). We used paid and donated time to reach the target audience in these campaigns. Standard industry formulas estimated that 75% of the target audience in each community would be exposed to campaign ads three times per week.

Message Exposure Achieved in the Campaigns

Message exposure was assessed along with numerous other variables in the campaign evaluation surveys, which were given monthly across the 21-month evaluation period. Beginning 9 months before the first campaign, we aimed to interview cross-sectional samples of approximately 90 adolescents in each community each month. The adolescents were randomly selected from lists that were provided to us by the public school systems in each community. While the early interviews were all of unique people, we allowed for some reinterviews later in the study as a result of a higher refusal rate than was expected. We conducted repeated stratified random sampling such that we aimed for proportionate samples of African Americans and Whites each month in each city. Initial contact took place by telephone, although the actual surveys took place at the adolescent’s home on a laptop computer. Because adolescents are younger than 18 years, initial contact took place with parents, who had to consent to their children participating in the study. Participants received US\$20–\$30 (increasing over the study time period) for participating in the survey. The university’s institutional review board approved all procedures used in the study.

Using the aforementioned methodology, 9,898 calls were made to households in Augusta, Georgia; 8,778 calls were made for first interviews, and 1,120 were made for reinterviews. For first interviews, 57.3% of the numbers called resulted in an ineligible household (number disconnected, business phone, no eligible child in household, language barrier, child moved, child physically unable to participate, or child does not watch TV). Of eligible households, 41.3% of those reached refused to participate in the study, and among those agreeing to participate 51.8% were actually interviewed, resulting in 1,139 completed interviews. For reinterviews, the parallel percentages were as follows: 18.7% were

ineligible, of those eligible 2.4% refused to participate, and of those agreeing to participate 79.8% were actually interviewed, resulting in 709 completed interviews. Thus, a total of 1,848 interviews were completed in Augusta.

In Charleston, South Carolina, 9,572 calls were made to households; 8,299 calls were made for first interviews, and 1,273 were made for reinterviews. For first interviews, 42.7% of the numbers called resulted in an ineligible household. Of eligible households, 49.9% of those reached refused to participate in the study, and among those agreeing to participate, 51.3% were actually interviewed, resulting in 1,222 completed interviews. For reinterviews, the parallel percentages were as follows: 15.2% were ineligible, of those eligible 3.9% refused to participate, and of those agreeing to participate 76.8% were actually interviewed, resulting in 796 completed interviews. Thus, a total of 2,018 interviews were completed in Charleston.

Thus, overall, 19,470 calls were made, resulting in 3,866 completed interviews. Most important for understanding the survey completion process, the overall refusal rate for those contacted for first interviews between the two cities was 45.6%. The refusal rate for reinterviews was 3.1%. The overall refusal rate was 32.9%.

To measure exposure to campaign messages, we used a recognition measure (Slater, 2004) that has been successfully applied in previous campaign projects (e.g., Zimmerman, Palmgreen, et al., 2007). Respondents were shown five of the seven original PSAs (selected randomly) developed for the campaign on a laptop computer as part of the larger campaign evaluation survey. The PSAs were phased in to the survey such that only ads that had aired at the point in the campaign when individuals were being surveyed were shown. Because only five PSAs could be shown (given time constraints in the interview), estimates that result from such data are likely to be underestimates of audience exposure to the campaign (because exposure to only five original PSAs was assessed using this method; exposure to the existing PSAs used in the campaigns was not assessed at all).

After a particular PSA was shown, respondents indicated how often they had seen the PSA using five frequency categories (have not seen it, once or twice, about 3–5 times, about 6–10 times, more than 10 times). Responses were conservatively recoded to reflect the category median or a low estimate (e.g., 3–5 times was recoded as 4). As a result of an ACASI programming error, individuals in Charleston were not asked their exposure to the spots until the second month of that campaign.

The entire study sample (complete cases) in both cities consisted of 3,640 interviewed individuals. The sample was 51% female, 64% African American, and the mean age was 13.40 years ($SD = 1.14$). Students were primarily in the seventh (27%), eighth (37%), or ninth (22%) grades. Data indicated that in the second month of the Charleston campaign (October, 2007), 74% of high sensation-seeking youth were exposed to at least one of the original PSAs from the campaign. This percentage (reach) climbed into the 80s and 90s in the subsequent months, with very similar exposure among high and low sensation-seekers. Data from the Augusta campaign also indicated good audience exposure. That is, in the first month of the campaign in Augusta (March, 2008), 53% of high sensation-seeking youth

were exposed to at least one PSA from the campaign. Similarly to the Charleston campaign, however, this percentage quickly climbed into the 80s and 90s in the subsequent months, and again was strikingly similar among low sensation-seekers.

Moreover, by the end of the campaign in Charleston (November, 2007), 49% of the high sensation-seekers had been exposed to three or more different PSAs, while in Augusta (May, 2008) this figure was 70%. These higher exposure figures in Augusta were apparently due to better message placement in Augusta as compared with Charleston, even though we aimed for similar message exposure in both cities. Again, high and low sensation-seekers exhibited very similar levels of message exposure. An additional analysis calculated during the months of each respective campaign revealed that the high sensation-seeking target audience had an estimated 21 PSA exposures in Charleston and 23 PSA exposures in Augusta.

Given that low and high sensation-seekers exhibited very similar levels of message exposure, and given that we were interested in levels of message exposure by race/ethnicity, we examined exposure among African Americans and Whites separately using the full sample (high and low sensation-seekers together). Figures 2 and 3 depict graphs of campaign exposure among these groups in the Charleston and Augusta campaigns, examining the proportion of individuals who reported being exposed to three or more different PSAs. These data indicate that in Charleston, we reached African Americans with much greater frequency than we did Whites. In Augusta, message exposure was very similar among the two groups. By the end of the campaign in Charleston (November, 2007), 66% of African Americans—in comparison with 43% of Whites—had been exposed to three or more different PSAs. By the end of the campaign in Augusta (May, 2008), 65% of African Americans—in comparison with 77% of Whites—had been exposed to three or more different PSAs.

Study Limitations

The present study had some limitations. First, all focus groups that were conducted as well as the initial survey research that was conducted used convenience samples. There is no guarantee that these samples were representative of the population from which they were drawn. Second, the formative research model that we applied in the development and implementation of campaigns is not the only possible model, and campaign developers should also consider other successful models (e.g., Horner et al., 2008). Third, despite some informative recent research (Dillard, Shen, & Vail, 2007; Dillard, Weber, & Vail, 2007), it remains unclear as to the best manner to assess the perceived effectiveness of PSAs, in terms of which dimensions of ads are most important to their ultimate actual effectiveness. Last, the issue of how to best target PSAs to audiences, especially in the area of health disparities, remains an empirical question. There is surprisingly little research that has systematically examined different targeting strategies in this area (Hornik & Ramirez, 2006), and thus we had little guidance as to what the most effective targeting strategy might be.

Conclusion

The present article aimed to demonstrate the careful application of principles of effective campaign design, implementation, and evaluation (Noar, 2006; Palmgreen & Donohew, 2003; Randolph & Viswanath, 2004; Salmon & Atkin, 2003) to a large, funded mass media campaign effort. Although the attitudinal and behavioral effects of the campaigns are the subject of another article in progress, we conclude here that health communication campaigns using televised PSAs hold much promise in reaching at-risk adolescent populations with targeted, timely, and relevant risk-reduction messages. Researchers and practitioners can reach such youth in a medium that is widely used by them, and also one that allows high sensation value risk-reduction messages to be developed and delivered. Future research should continue to evaluate the effectiveness of such traditional campaign efforts as well as to investigate ways to harness new media to reduce risky behaviors that result in the acquisition of HIV and other STDs.

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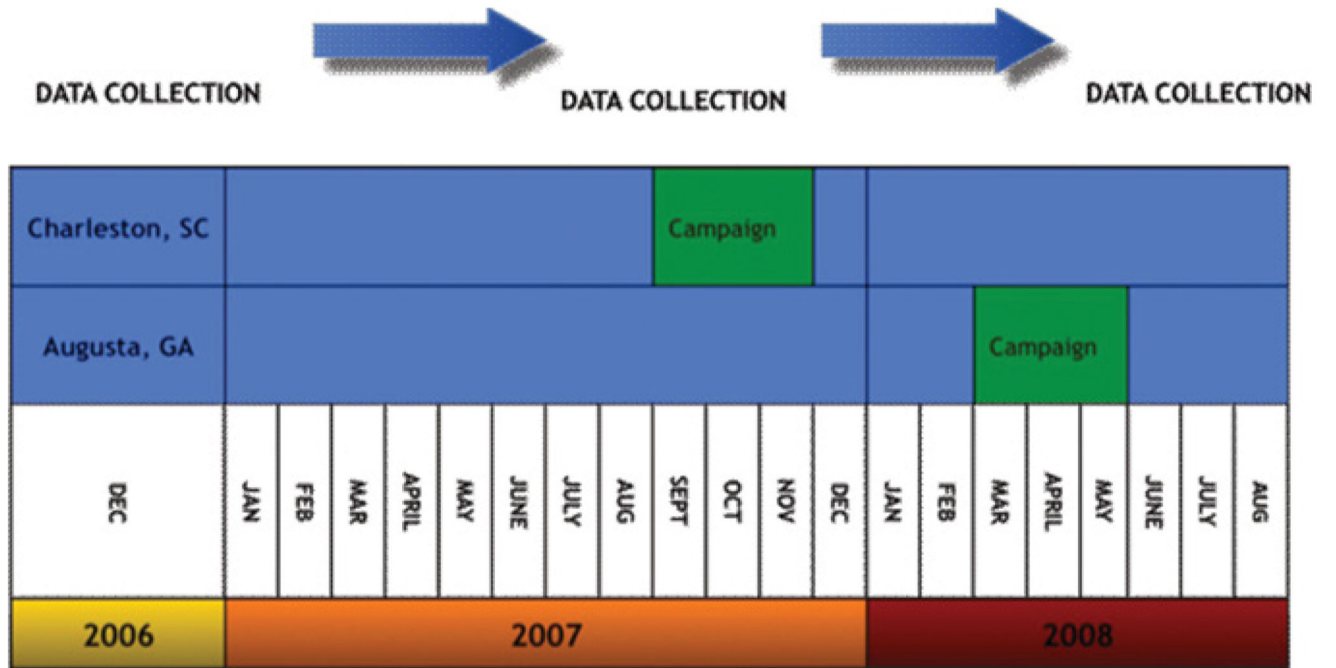


Figure 1. Interrupted time series design of the two-city media campaign project. (Color figure available online.)

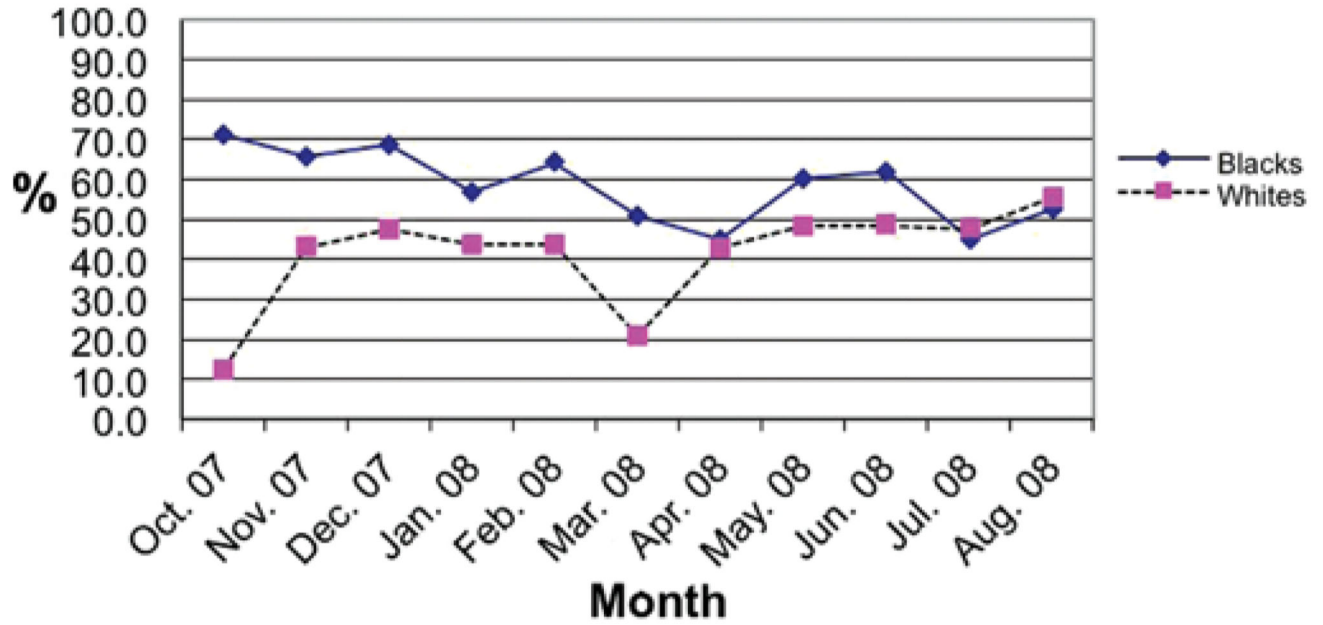


Figure 2.
 Exposure to three or more different public service announcements in the Charleston campaign among African Americans and Whites. (Color figure available online.)

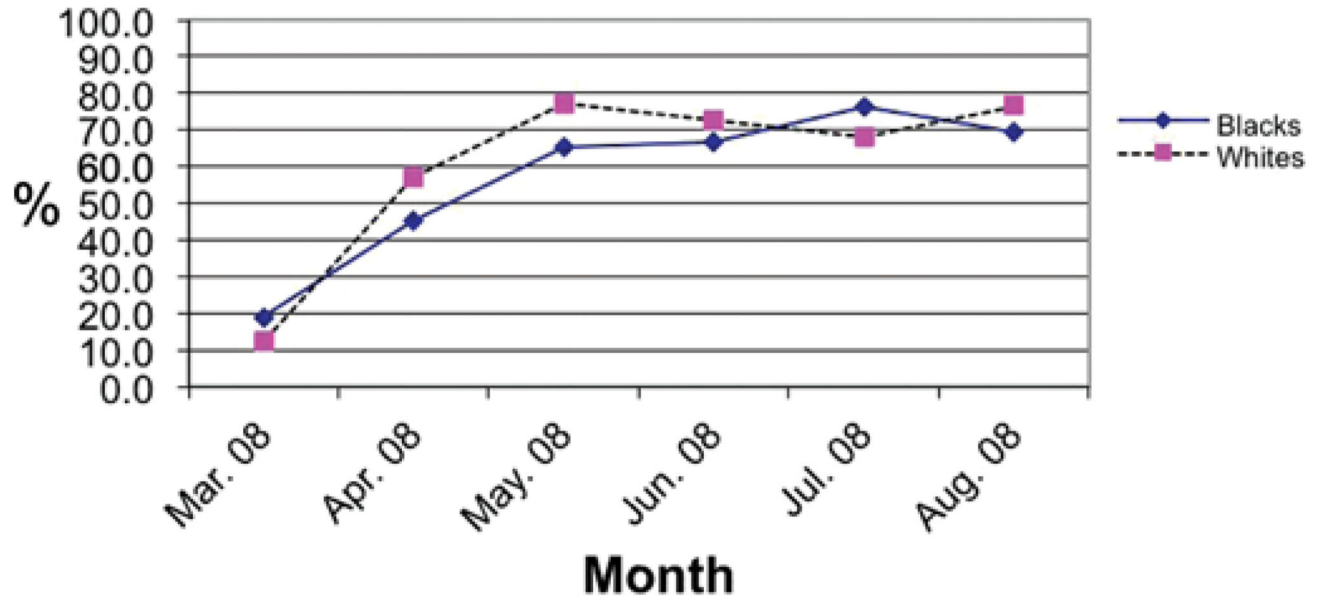


Figure 3. Exposure to three or more different public service announcements in the Augusta campaign among African Americans and Whites. (Color figure available online.)

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Table 1

Phases of formative research and associated activities in the delay of sex campaign project

Phase	Purpose	Activities
Preproduction research	Gather information regarding audience characteristics and behavior	<ul style="list-style-type: none"> • Thoroughly reviewed empirical literature • Conducted surveys with the target audience (precampaign data)
	Gather information regarding message channels	<ul style="list-style-type: none"> • Conducted surveys with target audience (precampaign data)
Pretesting	Test existing PSAs with target audience	<ul style="list-style-type: none"> • Collected large sample of existing PSAs • Rated existing PSAs on numerous dimensions • Chose most promising PSAs for further evaluation • Conducted survey research to garner reactions to PSAs • Secured permission to use 4 PSAs that were rated most highly by the target audience
	Develop and test preliminary versions of original PSAs with target audience	<ul style="list-style-type: none"> • Wrote numerous theory-based scripts for original PSAs • Revised PSA scripts based on research group discussions • Chose most promising scripts for focus groups • Conducted focus groups to get reactions to scripts • Revised scripts based on focus group feedback • Brought on target audience consultants to assist with final versions of PSA scripts • Worked with trusted professional in production of televised PSAs
Campaign planning	Create plans that will lead to successful implementation of campaign, including high message exposure	<ul style="list-style-type: none"> • Worked with media buyer as liaison to TV outlets • Met with TV station/cable managers early on to partner with them and address any concerns in advance • Asked these TV gatekeepers for 1–1 match on media buys • Kept TV gatekeepers informed throughout the process of development of PSAs • Worked with media buyer to ensure strategic placement of PSAs in paid and donated time • Aired PSAs in a theoretically meaningful way

Note. PSA = public service announcement.

Table 2
 Mean ratings (and standard deviations) of high sensation-seekers for 10 existing PSAs collected for possible use in the campaigns

PSA	Perceived message sensation value				
	Convincing	Credibility	Caught attention	Liked	Useful
The Big League	3.70 (1.11)	4.11 (1.05)	4.02 (1.09)	4.01 (1.30)	2.92 (1.38)
Still Hungry	3.46 (1.43)	4.03 (1.27)	3.54 (1.42)	3.23 (1.58)	2.88 (1.53)
Red Baby	3.34 (1.36)	4.16 (1.10)	3.92 (1.16)	3.86 (1.38)	2.91 (1.44)
Brain Battle	3.10 (1.25)	3.74 (1.29)	3.46 (1.40)	3.23 (1.54)	2.88 (1.48)
Sex Is Not a Game	2.93 (1.31)	3.53 (1.42)	3.02 (1.46)	2.94 (1.63)	2.58 (1.46)
Sports	2.90 (1.36)	3.35 (1.49)	2.82 (1.49)	2.73 (1.57)	2.60 (1.48)
Morning Barrage	2.86 (1.29)	3.28 (1.32)	3.13 (1.34)	3.16 (1.47)	2.74 (1.47)
STDs #3	2.79 (1.25)	3.71 (1.32)	3.01 (1.31)	2.73 (1.45)	2.61 (1.36)
My Problem	2.78 (1.20)	3.56 (1.33)	2.98 (1.42)	2.92 (1.47)	2.58 (1.41)
What's Your Hurry	2.74 (1.46)	3.38 (1.57)	2.82 (1.56)	2.49 (1.59)	2.43 (1.42)

Note. PSA = public service announcement.

Table 3

Descriptions and targeting dimensions of the four existing PSAs chosen for use in the campaigns

PSA	Description	Gender	Race
The Big League	An adolescent girl's shadow is shown in the bathroom adjacent to a bedroom. In the bedroom, an adolescent boy is checking his appearance and throwing pillows off the bed. An announcer's voice gives a play-by-play about the boy's actions, getting ready to have sex. The announcer says, "That's gotta hurt" when he uncovers a book about STDs on the girl's dresser. The final PSA screenshot states, "Wait for sex. Your future is worth it."	Male	White
Brain Battle	A boy and girl are kissing and the boy reaching under the girl's skirt while suggesting that they engage in intercourse. After hearing the boy's suggestion, the audience is able to listen to the girl's thought process. The PSA shows sketches of the girl's heart and brain as they argue why she should or should not have sex. This internal conflict leads to the girl deciding and stating to her boyfriend, "I want to wait to have sex." The final PSA screenshot states, "Wait for sex. Your future is worth it."	Female	African American
My Problem	This is a split-screen PSA: one side of the screen shows an African American girl and the other side shows a White girl. Both girls speak directly to the camera stating that their previous boyfriends tried to pressure them to have sex by stating that sex is the only way to express love. In the PSA, the girls highlight that even though their ex-boyfriends wanted to have sex, they made the decision to wait to have sex. The final PSA screenshot states, "Wait for sex. Your future is worth it."	Female	Both
Still Hungry	Several screenshots reminiscent of diseased penises are shown: the first screenshot is of a hot dog being burnt. The second screenshot is a melting popsicle. The third screenshot is of a decaying banana. Under each picture is a statement highlighting statistics associated with various sexually transmitted diseases. The PSA ends with the phrase, "Still hungry for sex?" The final PSA screenshot states, "Wait for sex. Your future is worth it."	Male	Both

Table 4

Descriptions and targeting dimensions of the seven original PSAs developed for the delay campaigns

PSA	Description	Gender	Race
Just the Two of Us	The PSA opens with sounds of lovemaking while clothes are dropping on the floor. Suddenly, a baby screams and a fully clothed teenage couple appears, sorting clothes, looking tired and frustrated, while a baby cries nearby. The lovemaking voices were actually coming from a soap opera on TV. As a voiceover asks, "Is this your future?" A message appears. "Life's not a soap opera. Wait for sex."	Female	White
The Life Kara Wants	A teenage boy is persuading a teenage girl to go up to a room alone with him. A message, "The life Kara might have," appears, followed by images of a sad, lonely, and tired Kara in an STD clinic and holding a baby. Subsequently, another screen with the message "The life Kara wants" appears, with images of a happy and successful Kara. We are taken back to the first scene where Kara declines to go with the boy and a message appears: "Wait for sex. Your future is worth it."	Female	African American
Devin's Thoughts	At a party with young African American teenagers, a young couple heads toward a bedroom alone. Upon reaching the bedroom, the boy gets nervous and the viewers hear his thoughts—questioning his readiness for sex, fear of contracting an STD, or getting the girl pregnant. He thinks that "being a man" <i>here</i> means waiting for sex and the couple go back to the party.	Both	African American
Translation 2	Teenagers are dancing at a party. Two teenagers—a boy and a girl—tell their partners, "I can give you everything you want," followed by messages such as "A SCREAMING BABY" and "GONORRHEA." A different couple appear and the boy tells his partner "I can be someone you really <i>need</i> " followed by "He's right—a good friend." PSA ends with, "Wait for sex. Your future is worth it."	Both	Both
My Story 2	This ad is a testimonial story of a teenage girl who became pregnant by her boyfriend. She talks about how she loved hanging out with her friends and would resist pressure from guys to have sex. But she says, "And then I got a boyfriend . . . an older guy." The ad ends with black-and-white shots of the pregnant teenager talking about how upset her parents are. A message on the screen reads, "Wait for sex. Your future is worth it."	Female	White
Get A Good Night's Sleep	A split screen shows a teenager and her mom sleeping. The viewer hears a baby crying in the background. The mom says, "Erica, get the baby." Erica says, "Mom—you do it; I got up the last 3 times." The two continue arguing until Erica finally gets up and picks up the baby. The ad ends with Erica rocking the baby in a rocking chair. A message on the	Female	African American

PSA	Description	Gender	Race
	screen reads, "Wait for sex. Your future is worth it."		
Time Out	Teenagers are in a school hallway between classes when a boy approaches his girlfriend. He says, "So, nobody's home tonight, and I thought we might ... you know." Time freezes and everyone is motionless. The girl speaks to the camera highlighting the reasons she is not ready to have sex. After the girl's monologue, time unfreezes and she says to her boyfriend, "We're having spaghetti for dinner. Come on over!" Her boyfriend asks, "Does that mean you don't wanna?" The girl responds, "That's right!" The PSA ends with the phrase, "If he loves you, he'll wait. Your future is worth it."	Female	White

Note. PSA = public service announcement.

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Table 5
Mean ratings (and standard deviations) of high sensation-seekers on original PSAs developed for the campaign

PSA	Perceived message sensation value				
	Convincing	Credibility	Caught attention	Liked	Useful
Get a Good Night's Sleep	3.61 (1.27)	4.43 (0.93)	3.72 (1.26)	3.80 (1.37)	3.18 (1.39)
Just the Two of Us	3.60 (1.19)	4.32 (0.94)	3.78 (1.25)	3.76 (1.38)	3.17 (1.34)
My Story 2	3.54 (1.33)	4.21 (1.15)	3.59 (1.37)	3.55 (1.48)	3.05 (1.40)
The Life Kara Wants	3.53 (1.29)	4.17 (1.12)	3.65 (1.32)	3.69 (1.42)	3.26 (1.37)
Translation 2	3.44 (1.27)	4.21 (1.05)	3.78 (1.27)	3.88 (1.32)	3.36 (1.10)
Devin's Thoughts	3.41 (1.27)	4.11 (1.15)	3.77 (1.30)	3.81 (1.39)	3.36 (1.35)
Time Out	3.10 (1.35)	3.97 (1.23)	3.41 (1.37)	3.41 (1.47)	3.19 (1.40)

Note. PSA = public service announcement.