The National Campaign
to Prevent Teen and Unplanned Pregnancy

EDITED BY: **JANE D. BROWN, PH.D.**

MANAGING THE MEDIA MONSTER

THE INFLUENCE OF MEDIA (FROM TELEVISION TO TEXT MESSAGES) ON **TEEN SEXUAL BEHAVIOR AND ATTITUDES**.

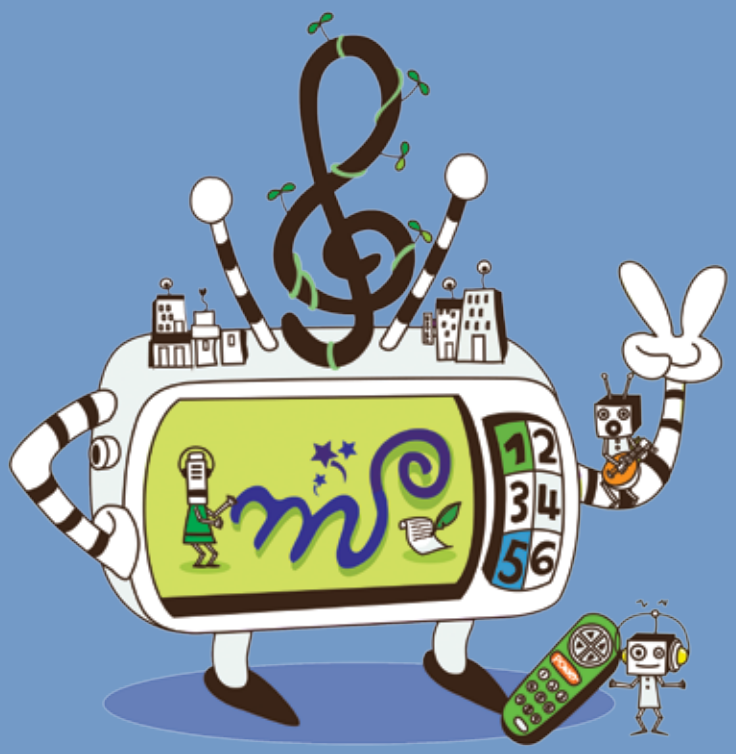

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TABLE OF CONTENTS

6 **INTRODUCTION:** THE MEDIA AS SEX EDUCATORS FOR YOUTH
Jane D. Brown, Ph.D.

18 **CHAPTER 1.0: VIRTUAL SEXUALITY:** THE INFLUENCE OF ENTERTAINMENT MEDIA ON SEXUAL ATTITUDES AND BEHAVIOR
Michael Rich, M.D., M.P.H.

40 **CHAPTER 2.0: USING MEDIA TO ADDRESS ADOLESCENT HEALTH:** LESSONS LEARNED ABROAD
Tilly A. Gurman, Dr.P.H.
Carol Underwood, Ph.D.

84 **CHAPTER 3.0: USING MEDIA TO ADDRESS ADOLESCENT SEXUAL HEALTH:** LESSONS LEARNED AT HOME
Sarah N. Keller, Ph.D., M.A.

122 **APPENDIX: HEALTH BEHAVIOR THEORIES:** A SNAPSHOT AND ADDITIONAL RESOURCES
Katherine Suellentrop, M.P.H.

126 **GLOSSARY OF TERMS**

PREFACE

Much has been written about the influence of the media on teen sexual behavior. In fact, when it comes to teens decisions about sex, few topics generate as much passionate discussion as the relative influence of the media. One need look no further than the media firestorm generated by a just-released report from the RAND Corporation linking sexual content on TV with teen pregnancy. Simply put, when it comes to media influence on teens, everyone is an expert.

The goal of this report is to inform practitioners and program providers about what the most up-to-date research says about teens and media influence. Specifically, the publication examines in detail how the media influences—in positive and negative ways—teen sexual knowledge, attitudes, and behavior. Importantly, the report also offers practical suggestions for how those working with youth can use the media to reach young people and provides suggestions on how best to capitalize on the exploding world of digital media.

A number of thoughts occurred to me in reading through this publication.

- **Media can be—and often is—a force for good.** Although there is certainly much in the media ether that is—to put it kindly—off message, there is also quite a bit that is entertaining, informative, and influential. One example: The summer 2008 NBC reality series *The Baby Borrowers* had its supporters and detractors to be sure. My strong suspicion, however, is that teens who watched the show gave more thought about when, and under what conditions, it is best to start a family. That's a very good thing given that show reached millions of teens and parents.

- **Media helps shape the social script for teens.** File this one under "research catches up with common sense file." From the latest must-have fashions to celebrity baby bumps to what is seen as normative behavior—the media helps paint the canvas of what is cool for teens.

- **Media influence is not as simple as many might believe.** The authors conclude that media influences teens in powerful ways but perhaps not as directly as some might believe. Consider this: content research suggests that media has become much more sexualized over the past 15 years—the same time period that rates of teen sex declined and teen contraceptive use increased. Again, media is playing a role; it is just not as direct as many believe.

- **Media influence is moderated by other influences in a teenager's life.** It is not a stretch to assume that the influence of media increases if other powerful influences are either not present (parents, for example) or are not on the job (parents who pay no attention to the media their sons and daughters are consuming).

- **We ignore the media at our own peril.** As Jane Brown notes in her introduction, media is the air that teens breathe. Given this, practitioners should do what they can to embrace this reality and use it to their advantage (this volume provides some ideas). Parents should reject "turn that crap off" as a strategy and instead spend time discussing with their children what they see and hear in the media. Parents should also remember that, although they can not control the media, they can control the media consumed in their house.

The National Campaign wishes to thank the authors of this volume for their scholarship. Much that is said and written about the influence of media on teen sexual behavior generates more heat than light. We are grateful to Jane Brown, Ph.D. for editing this volume and to Michael Rich, Ph.D., Tilly Gurman, Ph.D., Carol Underwood, Ph.D., and Sarah Keller, Ph.D. for bringing clarifying light on the important intersection of media and teen sexual behavior. We also extend our gratitude to the Centers for Disease Control and Prevention for making this publication possible and, in particular, to Carla P. White, M.P.H., Alison Spitz, M.P.H., and Christine Galavotti, Ph.D. for their helpful comments and guidance through this entire project. Last but certainly not least, we also wish to acknowledge the important contributions of Anne Brown Rodgers, Susan Philliber, Ph.D., Susan Newcomer, Ph.D., and Katherine Suellentrop to the success of this volume.

We encourage those who want to learn more about media influence, to get tips for parents, and to review other relevant materials, to visit **www.TheNationalCampaign.org**.

Sarah Brown
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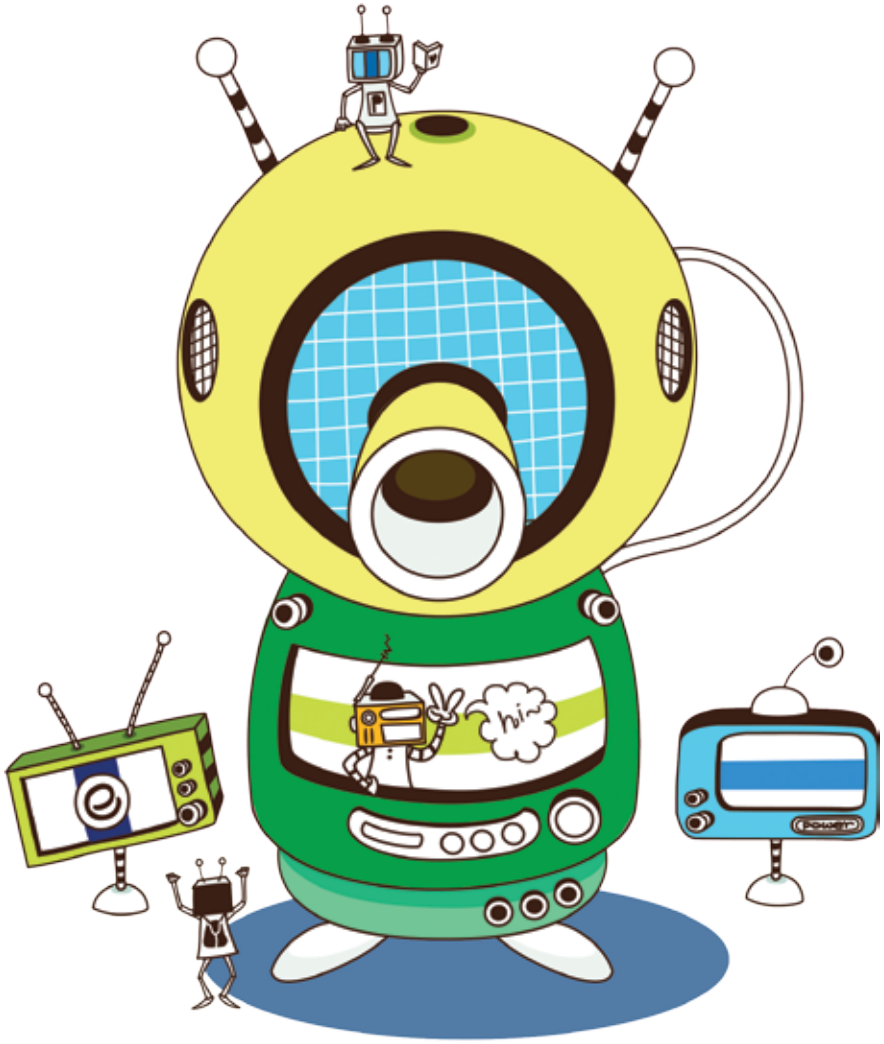
December 2008

INTRODUCTION: THE MEDIA AS SEX EDUCATORS FOR YOUTH

JANE D. BROWN, PH.D.



The **media**† are powerful sex educators for young people.[1] Television, music, movies, magazines, the Internet, and other kinds of media are not always healthy sex educators, however, because in the media sex rarely occurs inside loving, long-term relationships, and potentially negative outcomes or contraceptives are almost never discussed or depicted.[2] The kinds of media young people (defined here as ages 12 to 24) use every day typically portray early, unprotected sexual behavior as normative, glamorous, and risk-free.[3] Teens and young adults can monitor celebrity "baby bumps" on the Internet and their cell phones, and even movies such as "Knocked Up" and "Juno" that address teen and unintended pregnancy suggest that happy endings are to be expected.

Youth in the United States and increasingly around the world spend more time with the media than they do in school or with their parents.[4;5] According to nationally representative surveys in the United States, the average adolescent (ages 12 to 18) spends the equivalent of a part-time job or 6 to 7 hours a day, hooked up to or plugged in to some kind of media.[5] Much of what young people are listening to and/or watching includes sexual content, but, unfortunately, very little that might be considered sexually healthy.[6]

The National Campaign to Prevent Teen and Unplanned Pregnancy commissioned three excellent papers to suggest strategies for more effectively working with the media to promote sexual and reproductive health among young people.

The need for such interventions in the United States is clear, as teen birth rates continue to be among the highest in the industrialized world, and adolescents suffer from an epidemic of sexually transmitted infections (STIs).[7] In addition, more than one-half of pregnancies among young adults are unplanned, and more than one-fourth of adolescent girls have an STI.[8; 9]

Young people learn about norms and expectations for sexual behavior in a number of ways, including from friends, parents, and schools. A variety of factors influence decisions about sexual behavior, including parental communication, peer norms, school-based curricula, religious principles, and community norms. Given the power and scope of media in our culture today, the media permeate all these contexts and influence sexual knowledge, attitudes, and behavior—both positively and negatively. The three chapters in this report examine this reality in detail.

Chapter 1, written by Dr. Michael Rich, a pediatrician and director of the Center for Media and Child Health at Children's Hospital Boston, Harvard Medical School, provides an overview of what is currently known about the effects of sexual content in the entertainment media young people typically use. In the past decade, the number of studies focusing on the content and effects of sexual portrayals and messages has grown dramatically.

As Dr. Rich documents, most of the sexual content that young people see and hear in the media does not promote sexual health. One content analysis of a variety of media that young adolescents in the United States use frequently, in fact, found that less than one percent of the sexual content could be construed as portraying healthy sexual behavior. Even in those rare instances, gender stereotypes and humor often undermined the potential of a young person to learn from what they were seeing or hearing.[10] Young people today also have unprecedented access to pornography through the Internet and other new media technologies, such as cell phones with video screens.

† Bold, underlined terms are defined in the Glossary (see page 126).

As Dr. Rich makes clear, the current media environment is a tough one in which to insert messages that promote sexually healthy decision-making and behavior. However, a number of organizations and agencies have attempted to harness the power of the media to educate adolescents and young adults about sexual health. Chapters 2 and 3 assess the impact of such media interventions internationally and in the United States. Both chapters suggest that media interventions can play an important and positive role in adolescents' sexual knowledge, attitudes and behaviors.

Drs. Tilly Gurman and Carol Underwood, who are experts in international health at Johns Hopkins University, open Chapter 2 with a "leaving home" metaphor. Adolescents and young adults often are striking out on their own for the first time, and just as young people will learn new ways of doing things, so too, can U.S. health professionals learn from what our neighbors abroad have found successful. Drs. Gurman and Underwood's review of 25 evaluated, peer-reviewed interventions from 19 countries is the first to focus specifically on how effective media interventions have been in addressing adolescents' reproductive health. Using the evidence from these interventions, Drs. Gurman and Underwood offer four recommendations to consider when developing media interventions.

In Chapter 3, Dr. Sarah Keller, an expert in media interventions for health at Montana State University-Billings, reviews more than 20 media-based interventions for sexual and reproductive health that have been conducted in the United States. Because fewer interventions for adolescents' sexual health have been conducted in the United States and fewer still have been systematically evaluated as compared to the rest of the world, Dr. Keller draws not only from the U.S. sexual health campaigns, but also from media campaigns designed to improve other aspects of adolescents' health, principally the **truth®** smoking prevention campaign. Dr. Keller's review also includes recent interventions for sexual health that use some of the newest forms of media, such as cell phones and Internet social networking sites. This is especially helpful, given the rapidly changing media environment in which young people are growing up today.

USING MEDIA FOR SEXUAL HEALTH

The mass media have been used as tools to promote sexual health almost since their invention. During the World Wars, for example, GIs were warned about the dangers of STIs by colorful posters and in pamphlets distributed especially in port towns where the young men were sent for "rest and relaxation".[11] During and after World War II, however, communication researchers began to find that effective health communication was not as simple as creating a compelling poster. Some researchers even began to describe an "obstinate audience" because recipients did not always get the message or act on it as communicators had intended.[12] Since those early days, a great deal of work has been devoted to learning more about what makes for effective mass **media campaigns** for public health.[13]

EFFECTIVE MEDIA CAMPAIGNS

Several recent reviews of the effectiveness of media campaigns for a variety of health issues and across a range of ages suggest that the media can affect knowledge, attitudes, and behavior, although the proportion of people who change their behavior as a result of a media campaign typically is modest. In looking at a systematic sample of 48 health campaigns conducted from 1974 to 1997 that included media as a component of the intervention, Snyder and Hamilton[15] found that, on average, the campaigns achieved behavior changes in eight percent of their audiences. The most successful campaigns promoted the adoption of new behaviors—positive health-promoting actions that an individual could take—rather than the prevention or cessation of problem behaviors. The strongest campaigns also had a law enforcement component, such as seat belt use. When campaigns that included law enforce-

FIVE MEDIA STRATEGIES FOR SEXUAL HEALTH

The reviews of international and domestic media interventions for sexual health included in this report identify five media strategies that have been used to promote sexual health among adolescents and young adults domestically and abroad.

PUBLIC SERVICE ANNOUNCEMENTS

Public service announcements (PSAs) are short messages that are targeted to get the attention of specific audiences with relevant information designed to increase awareness of an issue, change attitudes, or encourage a specific behavior. In the United States, some media outlets provide time or space for PSAs, although PSA campaigns are often considered "paid media" because the television or radio airtime is purchased to ensure reaching target audiences.

SOCIAL MARKETING

Social marketing applies commercial marketing strategies (including multiple promotion techniques, strategic placement and pricing of the product or idea, and persuasive messages) to achieve behavioral change designed to benefit society. Sexual health social marketing has been used to promote specific products as well as changes in knowledge, attitudes, and practices. In the United States, the current "Evolve" campaign for Trojan brand condoms is a good example of a campaign using social marketing principles to sell an actual product. Other campaigns, both domestic and international, have used social marketing principles to reach young adults about STIs and pregnancy prevention.

ENTERTAINMENT–EDUCATION

Also known as E-E, **entertainment-education** calls for embedding socially desirable behaviors and messages in entertaining media content. The strategy is based on principals of Social Cognitive Learning theory,[14] which suggests that (1) attractive models can stimulate behavioral modeling, (2) resistance will be minimized if the persuasive intent of the content is less obvious, and (3) persuasion is more likely when the audience is engaged emotionally. E-E has been used both domestically and internationally to reach intended audiences through popular radio and television programs and teen-oriented magazines. Internationally, whole programs and story lines have been devoted to promoting sexual health. In the more competitive and privately-owned media in the United States, however, E-E is more likely to appear in only one to two episodes of a television program, or as one article in a magazine.

MEDIA ADVOCACY

Media advocacy focuses on the news media rather than entertainment media and is designed to increase awareness of and keep health issues on the public's and policymakers' agendas. Communication activities, such as guest editorials, letters to the editor, and appearances on talk shows, are used to promote the importance of a sexual health issue so more effective policies, such as science-based sex education programs, or access to reproductive health services may be enacted.

NEW MEDIA TECHNOLOGIES

Young people are the primary users of **new media technologies**, such as text messaging on cell phones, social networking sites such as MySpace and Facebook, and interactive websites. We are only beginning to develop strategies for effectively using these technologies to reach this highly mobile target audience with sexual health messages, but initial efforts have been promising.

ment were removed from the analysis, the average proportion of the targeted audience who changed their behavior (also known as "effects size") was five percent. Another analysis of 72 health campaigns that included media found an average behavior change of four percent.[16]

It is important to remember, however, that a seemingly modest increase in behavior change in the desired direction in a large population, such as the audiences that can be reached by a media campaign, may be many more people than can be reached in smaller-scale, hands-on efforts, such as one-on-one counseling or group discussion. And, because these analyses of average effects sizes did not examine campaign design, it is possible that the campaigns' behavioral impact may have been reduced by the inclusion of less well-designed campaigns. We should expect effects to be greater for campaigns designed according to effective campaign principles and theory.[17; 18]

Evaluation of well-designed media interventions have shown that, when used properly, media can have significant positive impact on a range of health-related attitudes and beliefs as well as on behaviors.[16; 19] In fact, a majority of the international interventions (16 of the 25) included in Drs. Gurman and Underwood's review reported some level of positive behavior change. Behavioral outcomes included talking with others about reproductive health matters, visiting a health care facility for reproductive health care services, or changing specific sexual behaviors. Nine of the interventions increased discussions of sexual health matters with others, the most commonly measured behavioral outcome.

The components of effective campaign design have been summarized by a number of health communication experts.[20-23] It is remarkable how similar their recommendations are to the ones generated in this report.

RECOMMENDATIONS FOR SEXUAL HEALTH MEDIA INTERVENTIONS

Specific recommendations based on the reviews of international and domestic interventions are provided in both Chapter 2 and 3. Those recommendations can be summarized into six broad elements that will help develop successful media campaigns.

USE THEORY TO DESIGN, IMPLEMENT, AND EVALUATE

Media campaigns that begin with a guiding set of principles or theory about behavioral change will be more successful than interventions that rely only on hunches or pet ideas. Theory should be seen as a helpful set of tools or a blueprint of what factors need to be addressed to move young people to healthful sexual behaviors. Theory can help identify effective communication messages and approaches for specific audiences, as well as the knowledge, attitudinal, or behavioral concepts to evaluate. Theory also can help identify *pathways* as well as potential *barriers* to achieving the expected change. In selecting which theory to use, practitioners should look to the research literature to see which theories have been most helpful for which sexual health outcomes and populations.

A number of relevant and tested health education and communication theories exist that can help guide interventions. Some of the most frequently used theories, such as the Theory of Planned Behavior,[25] Social Cognitive Theory,[14] and the Health Belief Model[24] identify the important factors that keep people from changing their current behavior and what may stimulate them to change. Media campaigns can be designed to focus on the most relevant of these factors: (1) *external constraints or barriers* (e.g., lack of access to contraceptives); (2) *skills* (e.g., how to put on a condom correctly); (3) *self-efficacy* (e.g., "I think I can put on a condom correctly"); (4) *attitudes* (e.g., the benefits of using a condom are perceived as outweighing the risks); (5) perceived social pressure or *norms* (e.g., "Everybody

else, including in the media, is already having sex, so maybe I should, too."); (6) *self-image* (e.g., "Only stupid people don't wear condoms and I'm not stupid."); (7) *emotional reaction* (e.g., "I'm scared I might get pregnant."); and (8) *intention* (e.g., "I will use a condom every time.").[26]

Another set of theories, including Stages of Change theory[27] and Diffusion of Innovation theory[28] describe the stages people go through as they move to adopt a new behavior. Knowing the audiences' stage help planners focus their activities and messages. For example, if young people aren't aware of an issue, then an intervention will have to start with increasing awareness. If, however, the potential audience knows a lot and has started thinking about the need to behave differently, but lacks motivation to engage in the desired behavior, the intervention will need to focus on increasing the sense that the new behavior is possible and will be helpful. More information on health behavior theories is available in the Appendix of this report (see page 122).

KNOW AND INVOLVE THE TARGET AUDIENCE

In the early days of mass communication research, we believed that if we crafted the right message, had a credible spokesman, and sent it through the right channel, receivers of the messages would change their behavior just as we wanted them to. After more than 75 years of research, however, we now know that the most important part of effective communication is the audience. What matters most is knowing who the audience is, what they currently believe, what motivates them, and what keeps them from engaging in the healthy behavior. It probably cannot be said enough that no intervention should be undertaken without prior and thorough understanding of the people to whom the messages will be addressed.

Planners of effective media interventions know a lot about their target audiences. Such knowledge is gathered through formative research with target audience members—one-on-one interviews, focus groups—and through secondary analyses of existing surveys. Increasingly, campaign planners include members of the target audience in the planning as well as implementation phases, because they can offer insight as well as credibility for the intervention.

Knowledge of cultural and sub-cultural audience differences in sexual values and beliefs is especially important for crafting effective messages about sexual health. Drs. Gurman and Underwood, found, for example, that in some cultures, young people are more motivated to use condoms to prevent pregnancy than to prevent STIs. In those cultures, focusing on the risks of pregnancy will be more productive, at least in the short run, than focusing on the risks of STIs.

Although Drs. Gurman and Underwood found few interventions that focused on gender differences, a number of studies in Dr. Rich's review of entertainment media (see Chapter 1), suggest that males and females have different motivations and beliefs about sexuality and sexual health, and that the media may perpetuate those gender stereotypes. Formative research should be used to find out whether males and females may react differently to messages and appeals used in media interventions.

Dr. Keller's review of domestic interventions leads to another key insight that getting young people to maintain a current behavior or engage in a new behavior is easier than getting young people to quit something they are already doing. Dr. Keller also suggests that the most important target audiences often will be those who are most at risk of engaging in the unhealthy behavior, not only because such audiences pose a greater need, but because campaigns that target high-risk populations are more likely to achieve demonstrable effects.

USE MULTIPLE MEDIA CHANNELS AS WELL AS INTERPERSONAL COMMUNICATION

Although some of the research in the United States has found that message saturation in one media channel may be sufficient to effectively reach a target audience,[23] the most successful overseas campaigns used more than one media channel to reach their intended audiences. Given the wide variety of media available to most young people today, it probably will be increasingly important to place messages in more than one channel (e.g., radio and TV; TV and Internet) to increase the likelihood that the message will be seen and/or heard.

Formative research is important in finding out which channels are most frequently used by the intended audience and/or most desirable for sexual health messages. As Dr. Keller finds, some of the newest interventions for adolescents' sexual health in the United States are using cell phones and the Internet in novel ways that attract and engage youth. These are indeed promising approaches to increasing the frequency with which campaign planners can reach young people.

Campaigns also tend to be more successful when they stimulate communication among the target audience. Interpersonal communication is especially important for sexual health campaigns because young people who want to engage in safe and healthy sexual behavior will need the social support of their peers and partners. Although evidence exists that television and radio campaigns alone can affect behavioral outcomes, behavioral change appears more likely when a friend, peer, parent, teacher, or health professional speaks directly with the youth. Once the mass media have introduced an idea or way of thinking, interpersonal communication can foster the idea's acceptability. Sexual health interventions typically generate interpersonal communication through peer education or counseling. The media component of the intervention can also include messages that encourage more dialogue about reproductive health issues among peers, sexual partners, or even between parents and their adolescent children.[29]

STRIVE FOR LONG-TERM EXPOSURE AND SUSTAINABILITY

We know that for long-term shifts in knowledge and attitudes and especially behavior, interventions must persist, with new, reinforcing messages and other kinds of communication and environmental support. A media campaign's chances of success are boosted when it reaches the target audience multiple times with consistent, clear messages, and when reinforcing messages and environmental supports are employed to sustain the desired changes in knowledge, attitudes, and behaviors.

Some argue that it takes at least three exposures of a relevant message to begin to change knowledge and attitudes and probably more exposures to begin to affect health practices and behavior.[30] On the first exposure, the message may not be noticed consciously, but on the second some processing may occur. The third exposure may evoke more active processing and interpretation. If the message has been well constructed with good insight about what might resonate with the target audience, short-term knowledge, attitude shifts, and even some behavior change is possible after several exposures. Multiple-media/multiple-channel interventions offer a range of opportunities and increase the likelihood that the intended audience will see or hear key messages more than once. Typically, the higher the "**dose**" (i.e., exposure to the media campaign), the more effective the intervention will be.[31; 32]

FOCUS ON THE ENVIRONMENT AS WELL AS INDIVIDUALS

Long-term behavioral change typically is more difficult than knowledge and attitude change. The socio-ecological model that Drs. Gurman and Underwood discuss in Chapter 2 suggests that youth at risk of STIs or unintended pregnancies will require multiple kinds of individual and environmental support and services. Young people

need the endorsement of their parents, peers, and sexual partners to practice safe sex. They also need the means to practice healthy sexual behavior. That includes access to contraceptives and reproductive health services that treat young people with respect.

Gurman and Underwood recommend collaboration among organizations so that efforts are more likely to be sustained. Campaign planners and their partners also can work with the media to promote policies that support young people's healthy sexual behavior over the long term. As Dr. Keller suggests in Chapter 3, sexual health advocates can use media techniques to lobby policy-makers to fund and expand sexual health services. Influential advocates and experts can write op-ed essays for newspapers and the blogs that policy makers read. They can meet with editorial boards and serve as guests on talk radio shows. As states consider what types of teen pregnancy prevention programs to fund, for example, sexual health advocates can work with legislators and the media, providing accurate, evidence-based information about which kinds of teen pregnancy prevention programs are effective.

EVALUATE YOUR EFFORTS

Many interventions have been launched but unless they are rigorously evaluated it is difficult to tell whether the effort was worth the time or resources. Evaluation at all steps in an intervention, including design (formative research), implementation (process evaluation), and effects (outcome evaluation) is important. The gold standard of a randomized controlled trial for outcome evaluation is rarely possible and often unfeasible, especially if a media campaign is national in scope. A number of other evaluation designs are possible and valuable, however, as Gurman and Underwood thoroughly describe in their chapter.

LIMITATIONS OF THE RESEARCH LITERATURE

Each of the chapters in this report is based on a wide array of published, refereed studies of entertainment media portrayals and effects and evaluations of interventions focused on sexuality and sexual and reproductive health. It is good to see that so much information is available about this important topic. It is also evident from these excellent reviews of the research that significant gaps exist.

Few of the published studies say much about how the messages distributed in the media interventions were developed or specifically what the messages were. It is rare for reports of interventions to include much detail about the values and appeals used in the messages, or how those appeals were generated. This may be a reflection of the lack of much theoretical work in this area, as Noar[23] noted recently in a 10-year retrospective on research on mass media health campaigns.

Typically, at the point of message development in media interventions, the task is turned over to a creative team who are supposed to make something of the key insights and talking points derived from the formative research with target audiences. Sometimes that seems like a black box—the creative team goes away and comes back with some possible messages and images and the research side of the house gets to provide some feedback. Preferably, more formative research will be done with the target audience to see whether the messages resonate, but rarely is anything more systematic done to test the potential effectiveness of the possible messages and appeals.

More work is needed about how best to construct messages. Witte's[33] analysis of when fear appeals will be most effective, and a recently published detailed description of the use of qualitative formative research conducted with African American adolescents in the development of radio and television messages for HIV prevention[34] are good steps in the right direction.

We say very little in this report about how much interventions cost or about cost effectiveness. Cost can often be an important issue in mass media campaigns, and as interventions get more complex, will be increasingly important. In the United States, reliance on free media, such as donated airtime for public service announcements or news reports is highly uncertain because the media environment is so competitive. Deregulation of the television industry has reduced incentives for media outlets to provide free time for PSAs, and buying time on television and even radio stations is often prohibitive for small organizations. New media technologies may help reduce some of the cost of distributing messages and engaging young audiences in interventions, but it is not clear at this point how much time or personnel it will take to effectively manage online interventions.

E-E and media advocacy are two message dissemination strategies that should cost less than buying airtime, but neither of these approaches has been as systematically evaluated as the more traditional media campaigns that rely either on PSAs or social marketing techniques. We also know that conducting good evaluations can be costly and when budgets are tight, often the evaluation component is the first thing to go. This is unfortunate, because if we do not evaluate, we are doomed to repeat mistakes and not learn from what already has been done.

Another media-related strategy that might be valuable is **media literacy** education. Media literacy is the ability to understand and use the media in an assertive rather than passive way. Media literate youth are informed about how the media work, the techniques used to construct messages, and the power of the media. A number of countries around the world have seen the importance of helping young people be more discerning media users and have established curricula for teaching media literacy in schools. In the United States, a media literacy movement is underway as two national organizations, the American Coalition for Media Education (**www.acmecoalition.org**) and the National Association for Media Literacy Education (**www.amlainfo.org/home**), and affiliated researchers develop, distribute, and evaluate curricula that can be used in classrooms and after-school programs.

Evaluations of media literacy curricula focused on health issues, such as smoking and drinking, have shown that these curricula are effective in increasing understanding of the persuasive appeals of advertising, and in reducing adolescents' intentions to engage in unhealthy behaviors.[35; 36] Only a few media literacy curricula that address sexual health issues and the media currently exist, but more are being developed and evaluated and should soon be available. More attention should be paid and resources devoted to arming young people with the tools they need to use media in healthier ways.

CONCLUSION

We are indeed fortunate that The National Campaign to Prevent Teen and Unplanned Pregnancy has commissioned these reviews of the current sexual content and effects of popular media and the more than 45 interventions for adolescents' sexual and reproductive health that have been conducted here in the United States and abroad.

Certainly there is more to learn about how to use the media most effectively in promoting sexual and reproductive health. However, it is also clear from these reviews that we know enough now that we must embrace the power of the media to reach young people with messages that will help them live healthy sexual lives. The media are the air our young people breathe. That air should include accurate information about the risks and responsibilities of sexual behavior. It is not fair to our youth to surround them with images that encourage early, risky sexual behavior but not use the same tools to give them the information and resources they need to make responsible choices. In the future, we should do all we can to use the recommendations derived from these reviews to fashion even more effective media interventions in the interest of young people's sexual and reproductive health.

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1.0 VIRTUAL SEXUALITY: THE INFLUENCE OF ENTERTAINMENT MEDIA ON SEXUAL ATTITUDES AND BEHAVIOR

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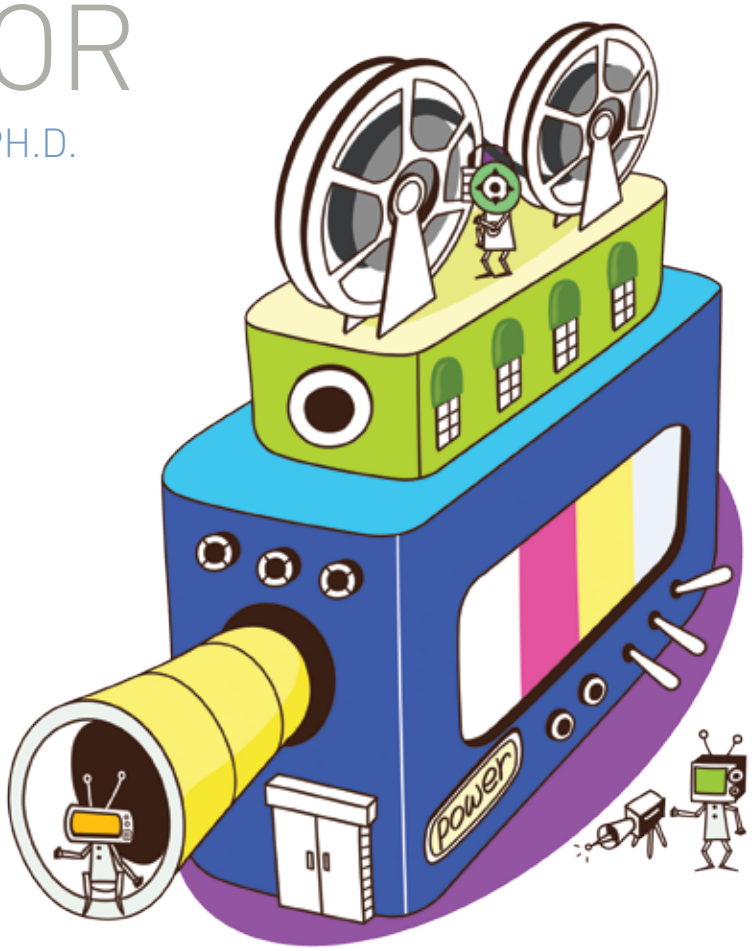


INTRODUCTION

From the earliest days of the motion picture through the rapid proliferation of television (TV) into American homes to the explosion of media technologies at the turn of the millennium, the public has been concerned about portrayals of sex and violence in entertainment media. Although "sex and violence" are often uttered as inextricably linked, the disparity in the amount of research investigating the influence of the media on sex and violence reveals much about our cultural preconceptions. There is a general consensus that violent behavior is unhealthy; more than 1,000 scientific reports in the last half century have focused on the effects of media violence. Our society is much more conflicted and values-driven about sexual behavior. Fewer than 300 studies of sex in the media have been published, beginning with several content analyses conducted in the late 1970s, followed by studies of the effects of pornography in the 1980s. The first serious examination of the effects of sexual content in mainstream entertainment media was initiated only in the 1990s.

This chapter outlines the theories of how media influence sexual attitudes and beliefs and describes how adolescents use media and the sexual content to which their use exposes them. The chapter also evaluates studies assessing "real world" correlations between media exposure and sexual behavior and examines the results of experimental research. Finally, the chapter explores the promise of strategies to reduce the harmful effects of sexual media content on adolescents. Although much remains to be learned about the influence of media on adolescents' sexual behavior, what we already know provides insight into the ways in which media exposure can influence young people and helps to inform strategies to encourage healthy sexual behavior.

Confronting, learning about, experimenting with, and finally establishing one's sexuality is a key developmental task of adolescence. Media, from television to the Internet, offer an accessible source of information and an arena in which to work through this task. Adolescents seek out sexual knowledge and experience through the media, but may not have the ability to determine the quality of the information or the safety of the experience. Although accessible media channels have liberated youth from dependence on parents, schools, or other resources that may be help-

ful or may stifle or twist adolescents' developmentally normal quest, media present new problems by offering few clues as to which sexual behaviors are appropriate, respectful, and safe.

BACKGROUND

Media influences on sexual behavior were first reported in a sex education newsletter in 1981.[1] General reviews of the influence of media on a broad variety of health concerns among all adolescents[2; 3] and specific sub-populations, such as boys[4] and adolescents of color,[5] have included sexual behavior as a key outcome of concern. Changes in sexual attitudes and behaviors have been included among 1,043 studies of the effects of viewing TV[6] and as one of five health outcomes associated with viewing music videos.[7] Several overviews have examined adolescents' use of media as a source of information,[8-13] raising concern about the influence of media portrayals on sexual attitudes and normative expectations of adolescents at a critical developmental stage. Regardless of each article's perspective, audience, and purpose, all of the reviews of the research evidence on media and sexual behavior have described serious limitations in the evidence base and aggressively called for more research. This call was heard and responded to by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) with a program announcement in 1998 calling for research on the effects of media on sexual behavior. Since the NICHD's funding of five large-scale projects, the publication of rigorous research in this area has increased significantly.[14]

Several times over the last quarter century, pediatricians led by Victor Strasburger, M.D., a specialist in adolescent medicine, have made recommendations for protecting youth from media effects on sexual behavior through clinical practice, advocacy, and education.[15-22] Building upon these, the American Academy of Pediatrics (AAP) issued formal policy statements on "Sexuality, Contraception and the Media" in 1986, 1995, and 2001.[23-25] Concerned about the influence of media and popular culture on self-image and gender roles, the American Psychological Association appointed a task force to study the sexualization of girls, releasing their findings in 2007.[26] Their recommendations were that adults should help adolescents limit their exposure to the sexual content in media, teach them how to deconstruct and assess messages they receive from popular culture, and balance media portrayals of fun, risk-free sex with accurate and practical information about the potential consequences of sexual activity.

THEORIES OF MEDIA INFLUENCE ON SEXUAL BEHAVIOR

Following the model established in media violence research, most theoretical models build on the foundation of Bandura's Social Learning Theory, which proposes that when we see behavior that is rewarded in the media, we imitate and may eventually adopt that behavior as our own.[27] Exposure to sexual content in the media also may prime viewers, sensitizing them to sexualized attitudes and behaviors.[28] The Surgeon General's 1982 report on TV violence suggested that media may have an activating or arousal effect on sexual behavior, as well as on aggression.[29]

The cultivation theory, developed by Gerbner and colleagues, proposed that media portrayals of sexual behavior are more extensive and powerful than the limited life experience of young people, cultivating attitudes and expectations in young people that are more consistent with virtual reality than with reality itself.[30] As youth use media more and more, it has been proposed that media may overwhelm the information they receive from their real-world peers. As a result, media personalities may become "superpeers," engaging youths' aspirations, demonstrating how fictional teens think and act, and functioning as virtual role models for those who are figuring out who they are and how they should behave as sexual beings.[31]

METHODS

The literature describing scientific theory and research findings on the influences of entertainment media on the sexual knowledge, attitudes, and behaviors of youth has been accessed through the Database of Research at the Center on Media and Child Health (CMCH), based at Children's Hospital Boston, Harvard Medical School. Seeking to establish a single, reliable source of rigorous scientific information on how media affect human health and development, CMCH has collected and validated literature from 13 disciplines to build a comprehensive database of the research on how media affect the physical, mental, and social health of young people from infancy through the college years. Posted at **www.cmch.tv**, the CMCH Database of Research is searchable by subject keywords and accessible to natural language queries through the Smart Search engine. For this chapter, search terms included sexual, pregnan*, pornograph*, STI, HIV, and AIDS. Of the 9,625 discrete papers, articles, and books that CMCH had collected by June 2008, fewer than 300 addressed media effects on sexual beliefs or activity.

Comstock has suggested that viewers are disinhibited by exposure to media portrayals of casual sex, allowing them to vicariously explore experiences that have been discouraged by parents and by "real life" rules and expectations.[32] A conceptual model of how easy access to sexually explicit material on the Internet may influence psychosexual development has been proposed by Fisher and Barak.[33] Young people who seek out sexual content on the Internet experience unconditioned erotic stimulation when exposed to the images. If that experience is positive, they seek out more erotic stimulation through the Internet; if negative, they avoid such stimuli. Specific imagery of certain body parts or sexual acts seen on the Internet can then become conditioned erotic stimuli, resulting in arousal, independent of their association with either a sexual act or the Internet.[33] Another theory, the Media Practice Model (MPM), developed by Brown and her colleagues, integrates many of these concepts into a more active approach to adolescents' media use. The MPM proposes that young people's media use evolves from general to specific through their adolescent development, as they seek out from media necessary information, clarification, and finally, validation on who they are and how they want to live.[34] Taken as a whole, these theories suggest ways in which media portrayals of sex as prevalent, fun, and risk-free may influence youth to believe that sex without commitments, consequences, or concerns is normative and desirable for adolescents.

SEXUAL CONTENT IN POPULAR MEDIA

Because most theories of media effects assume that different kinds of content will have different kinds of effects, it is important to understand what portrayals are available to youth. Although many analyses of sexual content have been conducted, we focus here only on studies published in the past decade investigating recently available media.

(A) TEEN MAGAZINES

Adolescent-directed magazines are widely read by girls, particularly during their formative pre-teen years. Because the negotiation of sex roles, relationships, and sexual behavior are a source of anxiety and a major developmental task, narratives about and strategies for romance and sexuality are prevalent in teen magazines. Between 1974 and 1994, *Seventeen*, one of the most popular U.S. magazines for teen girls, nearly doubled the number of stories with sexual content and themes, increased its portrayals of female sexual desire and recreational sex, and described a wider variety of sexual activity.[35] One analysis of *Seventeen* and *YM* magazines described the magazines as simultaneously coaching girls to be sexually alluring while admonishing them to be chaste, thus reflecting contradictory social norms and sexual power dynamics.[36] Another study of *Seventeen*, *YM*, *Teen*, *Glamour*, and *Mademoiselle* found that sexual content focused exclusively on white heterosexuals and encouraged girls to subordinate their own interests and make themselves attractive to boys.[37] Messages about boys in *Seventeen*, *YM*, *CosmoGirl*, *ElleGirl*, and *Girls' Life* predominantly portrayed adolescent males as disposable "boy toys," who were insecure, emotionally unavailable, and treated intimacy and sexuality as separate. Girls were represented as responsible for attracting, then changing, boys.[38]

Several studies have examined portrayals of sex in the advertising featured in teen magazines. Compared with general audience publications, advertisements in magazines with a predominantly youth readership were 60 percent more likely to show couples engaged in sexual activity and female models were 3.7 times more likely to be sexually dressed than their male counterparts.[39] Fashion advertising typically dresses and poses adolescents seductively, portraying older females as younger and more virginal and prepubescent girls as more sexualized.[40]

(B) TELEVISION

Despite the recent explosion in **new media technologies**†, TV remains the medium most frequently

† Bold, underlined terms are defined in the Glossary (see page 126).

used by adolescents. Synthesis of three content analyses conducted in the late 1990s showed sexual content to be prevalent on TV, with talk about sex being the predominant form of content. Precursor behaviors, such as kissing and touching, were more prevalent than sexual intercourse, which was portrayed or implied in about 12 percent of all shows. Less than 10 percent of the shows that dealt with sexual intercourse addressed any sexual risks or responsibilities.[41] On the four major advertising-supported networks (ABC, CBS, NBC, and Fox), the proportion of shows containing sexual material and the average number of sex scenes per show increased significantly between the 1997-1998 and 2001-2002 seasons.[42] During the 2001-2002 season, 71 percent of programs contained sexual content, with an average of 6.1 sex-related scenes per hour.[43] Another study examining 1,276 youth-directed programs broadcast in 2001-2002 showed that 82 percent of episodes featured sexual talk and 67 percent sexual behavior, with 11 percent implying and 4 percent portraying sexual intercourse.[44]

Only one study assessed portrayals of gay and lesbian sexuality, finding that 7.5 percent of shows on the fall 2001 schedule of the six major advertising-supported broadcast networks (ABC, CBS, Fox, NBC, UPN, and the WB) had one or more regular characters identified as gay or lesbian.[45] The number of displays of affection between heterosexual and gay/lesbian couples did not differ significantly, but the majority of heterosexual displays were kisses, while those of gays or lesbians were non-sexual hugs. Nearly two-thirds of the jokes about gay/lesbian lifestyles were made by gays or lesbians.

(C) MOVIES

Sexual content is more explicit in movies than on TV, in part because the motion picture rating system offers the potential for segmenting the audience into those who are deemed mature enough for adult-oriented content. The movie ratings are not consistent, however, as sexual content in R-rated films has steadily increased over the past 10 years or so.[46] An examination of sexual content in the 50 top-grossing films in 1996 found 30 sex scenes in films rated R (13 scenes) through PG (five scenes); 17 percent of the scenes, including the only two portraying homosexual behaviors, were rapes.[47] More than two-thirds of the dramas portrayed sexual activity, which was initiated by men in 23 percent of the scenes and by women in 10 percent. Movie previews on DVDs are often not matched to the rating of the main feature. One study found that more than half (56 percent) of previews shown before G-rated films included sexual imagery at an average rate of 1.5 scenes per minute.[48]

(D) INTERNET

The Internet has made sexually explicit materials more accessible to youth than ever before, making it an important source of information about reproductive health. Many youth use the Internet to search for information about their bodies and bodily functions, including sex. However, only 14 percent visited a doctor based on what they found, and few of those discussed sex or other topics of greatest concern with the doctor.[49] Consumer demand for pornography has been a key economic driver of the Internet, as it was for videocassette recorders a quarter of a century earlier. In the late 1990s, it was estimated that the online pornography industry was worth more than $1 billion and that half of all spending on the Internet was related to sex.[50] The Internet provides a marketplace for the portrayal and sale of items related to all manner of sexual interests, including and often featuring the unconventional and bizarre.[51] A national survey found that 75 to 83 percent of adolescents reported having Internet access at home and that 70 percent of them reported being exposed to Internet pornography. More than half of the adolescents said they were unconcerned about it.[51] In a recent study of 813 university students from across the United States, two-thirds of the men and one-half of the women considered viewing pornography to be acceptable; 87 percent of the men and 31 percent of the women reported seeking out pornography themselves.[52]

ADOLESCENTS' EXPOSURE TO SEXUAL CONTENT IN MEDIA

Determining young people's actual exposure and response to sexual content in media is the first step to assessing the influence of media on their sexual attitudes and behaviors. Research shows that exposure to sexual material in media starts early. One study found that children ages 6 to 11 are attracted to and watch TV with sexual themes and references, such as dating shows, soap operas, and sitcoms, in part because they are accessing "forbidden fruit" aimed at more mature viewers.[53] In an early study examining how well young people comprehend sexual content on TV, pre-teens and teens were found to have good grasp of sexual innuendo, but those aged 12 understood significantly less than those aged 14 and 16.[54]

One study found that 75 percent of surveyed college students recalled first seeing explicit sexual media content as minors and 15 percent said that they had enduring thoughts about the sexual content.[55] They reported physical responses such as sexual arousal, avoidance, tension, and nausea, and emotional responses, including disgust, shock, embarrassment, and interest in the material.

Girls in early adolescence have been found to choose media idols consistent with their stage of romantic interest—focusing on feminine idols before they are interested in boys, then transitioning to masculine idols as their sexuality develops.[56] Thus, media may serve as a crucible for developing sexuality. As young people grapple with their own emerging sexual identities, they may seek out models in the media, wrestling with their initial attraction-repulsion to sexual issues, evolving into virtual relationships with celebrities, and finally attraction to others in real life. Adolescents acknowledge that they use media to learn about sexuality, relationships, and love.[57] Youth approach and respond to media from their own life experiences, so ethnicity, gender, class, and developmental stage all influence their media choices. Although some adolescents do not see people or lives such as theirs reflected in the media, when teens *do* see people or images in media to which they relate, they are more likely to be influenced. White and black middle school students have been shown to have distinct and different TV viewing preferences.[58] In a study from 2001, the top 10 shows viewed by African-American adolescents all featured African-American characters and none were regularly viewed by more than 16% of the white adolescents. Among the 140 most popular TV shows, only four were regularly watched by more than one-third of each race/gender group.

Testing the theory that we consume media that reflect and validate our experience, studies have investigated whether preference for media with sexual content varies between sexually active and inactive youth. One analysis of media viewing habits among pregnant and non-pregnant African-American and white adolescent girls ages 13 to 19 found that pregnant girls of both races had significantly greater exposure to sexual content in soap operas, primetime TV, and R-rated films, compared to non-pregnant adolescent girls,[59] although another study found no differences.[60] Adolescent girls who reached physical maturation earlier showed more interest in sexual media, viewed more R-rated movies, accessed more media information on dating, contraception, and sexually transmitted infections (STIs), and were more likely to perceive of media as normalizing or giving societal permission for sexual activity.[61]

With the rapid rise of Internet use among children and youth, exposure to explicit sexual material and vulnerability to online sexual interactions with others has been of increased concern to parents and to society. Children now start using the Internet quite young and many report problematic experiences. Dutch studies with children ages 8 to 12 found that half had had negative experiences on the Internet, with girls reporting being disturbed by online content, especially pornography, more often than boys.[62; 63] As youth get older and more experienced, their

Internet use becomes less accessible to parental oversight, but many still feel unsafe. Among 7th-10th graders in the Midwest who reported using a computer 4.8 days a week on average, 25 percent reported feeling unsafe online, more than half of those due to strangers or acquaintances using the Internet to connect with them in a sexual manner.[64]

In a U.S. national survey conducted in 1999, 25 percent of youth who used the Internet said they had encountered unwanted exposure to pornography.[65; 66] By 2005, the proportion of Internet users aged 10 to 17 who reported exposure to online pornography in the previous year had increased to 42 percent.[67] Although two-thirds of the youth exposed to pornography said the exposure was unwanted, the study did not indicate whether they left the pornographic sites immediately, remained on them, or explored linked pornographic sites.

In a 2005 survey of 745 Dutch adolescents ages 13 to 18, 71 percent of the males and 40 percent of the females said they had been exposed to sexually explicit material on the Internet in the previous six months.[68] Adolescents who were male, high sensation-seekers, more interested in sex, used sexual material in other media more often, were less satisfied with life, had younger friends, and had a faster Internet connection were more likely to access sexually explicit material online. Among males, advanced pubertal development was associated with more frequent use of online pornography, while among females, increasing sexual experience was associated with less frequent exposure.[68] Intentional exposure to online pornography was associated with being male, prone to rule-breaking, talking online to unknown people about sex, and using the Internet at friends' homes. Depressed or withdrawn youth were at significantly increased risk for unwanted exposure to pornography (odds ratio [OR]: 2.3), as were those who reported being harassed online (OR: 1.9), receiving unwanted sexual solicitations (OR: 2.7), being victimized offline (OR: 1.4), and using file-sharing programs to download images (OR: 1.9).[68] Male college students participating in an online survey have reported online sexual entertainment-seeking at an earlier age than females. Compulsive Internet sexual behavior ranging from "porn surfing" to visiting explicit chat rooms to connecting with others for purposes of virtual or actual sex was found in 3.5 to 17 percent of those in the study.[52]

Among college students, 59 percent reported receiving unwanted pornography and 10 to 15 percent reported online sexual harassment both by email and instant messages (IM), most frequently by strangers.[69] Comparing two similar national surveys, sexual solicitations declined overall from 2000 to 2005, but in 2005, youth were 1.7 times more likely to report aggressive solicitations than five years earlier.[70] Among the U.S. youth Internet respondents to the 2005 survey, 20 percent reported being victimized online, with nearly half of those (45 percent) receiving requests for sexual pictures of themselves.[71] Only one of the 1,500 respondents reported actually sending a picture.[71]

Adolescents and young adults who use the Internet the most, particularly those who use it to connect with others for romantic or sexual relationships, are at highest risk of being exposed to unwanted material or solicitations. Because the Internet offers a variety of models for connecting with others and provides the "three As"—Accessibility, Affordability, and (perceived) Anonymity—it is attractive (particularly for those who feel isolated or marginalized) as a way to "try out" relationships. Problems have arisen, however, when youth try to transform Internet-established connections into face-to-face relationships.[78; 79] One study supports the premise that youth mainly use the Internet for social purposes, with IM being the most prevalent activity, but this study found that more than half the young users had misrepresented who they were online, often portraying themselves as older and more sexually experienced than they actually were.[73] The explosive growth of social networking sites have made it common, if not expected, for young people to have a MySpace or Facebook page with which to

present themselves to the world. Research on Internet chat rooms, which preceded social networking sites as a virtual venue for meeting and interacting, found that younger adolescents were more likely to provide information about their actual identities, while older teens were more likely to communicate explicitly sexual material.[74; 75] Some studies have shown that developing an Internet-based social network led to an unhealthy retreat from real-life interaction with peers.[72]

RELATIONSHIPS OBSERVED BETWEEN MEDIA EXPOSURE AND SEXUAL ATTITUDES AND BEHAVIOR

Given the prevalence of sexual content in popular media available to children and adolescents, it is important to test the hypothesis that young people's exposure to sexual media influences their perceptions and expectations of relationships and contributes to the development of their sexual attitudes and behaviors. Media portrayals of sex as a fun, carefree, and common activity that does not warrant concerns, cautions, contraception, or consequences may cultivate similar beliefs and influence sexual behaviors among youth.[80] These studies are designed to assess statistical associations between viewing specific media and viewers' sexual attitudes or behaviors, the odds of exposure and outcomes grouping together; they cannot demonstrate causality (that the exposure causes outcomes). In the few cases where researchers controlled for other factors that may have affected the outcomes of interest, such as family connectedness, media literacy, access to sex education or confidential reproductive healthcare, these controls are explained.

In 1991, although they did not measure media content, Peterson and colleagues found an association between duration of TV viewing and early initiation of sexual intercourse among adolescents.[81] This finding was supported by Brown and Newcomer, who found that junior high school students who watched television with more sexual content were more likely to have initiated sexual activity than those who watched less sexual media content.[82] What remained unclear from these cross-sectional studies was whether youth who watched more sexual media content were more likely to have sex or whether those who were having sex were more likely to watch content that reflected their experience.

A decade later, a longitudinal prospective survey of 1,461 youth ages 12 to 17 who were interviewed three times over three years by Collins and colleagues showed that those with high exposure to sexual content on TV were twice as likely to initiate sexual intercourse in an upcoming year. They also became sexually active, on average, six months earlier than their peers with low exposure to televised sexual content.[83] Girls viewed more sexual content on TV than did boys, and younger adolescents viewed more sexual content than older adolescents. Having a TV in the bedroom and friends who approved of sexual activity predicted higher exposure to sexual content. Building on these findings, a recent analysis using an additional wave of these data found that exposure to high sexual content on TV at baseline is associated with an increased risk of teen pregnancy over the subsequent three years.[84]

Broadening beyond TV, Brown and colleagues conducted a similar longitudinal study assessing the influence of exposure to sexual content in four media (TV, movies, music, and magazines) popular with 1,017 early adolescents (ages 12 to 14). They found that the quintile of teens who consumed the greatest amount of sexual media content in early adolescence were more than twice as likely as those with lighter sexual media diets to have initiated sexual intercourse by the time they were 16 years old.[85]

Music is often the medium that defines and may help shape young people's romantic ideals and expectations. Recent research has associated frequent

listening to music that has degrading sexual lyrics with adolescents' higher likelihood of initiating sexual intercourse and with more rapid progress through non-coital sexual activities.[86] Females who listened to heavy metal music have been found more likely to have sex without contraception[87] and male heavy metal fans had more sexual partners and lower respect for women than did fans of other musical genres.[88] When compared to peers, 12- to 14-year-olds exposed to sexual content in popular music were at increased risk for light sexual activity (e.g. kissing, touching), while those exposed to sexual content in movies were at elevated risk for both light and heavy sexual activity (e.g. oral sex, intercourse).[89]

The influence of TV exposure on sexual attitudes, expectations, and behaviors may depend on the sex roles and sexual expectations portrayed. Adolescent girls who watch more prime-time TV, particularly those who identify strongly with the characters, have been shown more likely to endorse view sex as a recreational activity.[90] In another study, which compared amounts of TV watched and program formats, viewing more TV, especially soap operas, was related to younger initiation to dating and having a greater number of dating partners. Those who watched romantic programming were more likely to endorse traditional gender role beliefs than those who viewed other formats. In contrast, viewing non-romantic dramas was correlated with participants having less traditional gender roles and more dating partners.[91] Among college students, watching MTV was the most powerful predictor of females' sexual attitudes and number of sexual partners, but soap opera viewing, self-esteem, and relationship involvement were the best predictors of their male counterparts' number of sexual partners.[92]

Females who had substantial exposure to sexual content on TV have been found to expect sex at a relatively early stage in relationships, but not to have expectations regarding variety of sexual behaviors. On the other hand, men who watch a substantial amount of televised sexual content expect more variety in behaviors, but their expectations about the timing of sexual activity in a relationship are similar to men who watch less sexual content.[93] Exposure to televised sex has been found to predict having sexually active friends, safe-sex self-efficacy, and less romantic, more cynical expectations from sex.[94]

Jackson and others have expressed specific concern that the media's portrayal of females as passive recipients and males as active instigators of sexual activity may interfere with the successful negotiation of safe sex.[95] One study found that young women who watched more TV, particularly soap operas and prime-time dramas, were less likely to feel in control of and happy with their sexual activity than their peers who watched less TV.[96] Females reported less sense of control over their own sexual encounters after watching TV program episodes of sexual women attracting males and men avoiding commitment in relationships.

The sexual content that influences attitudes and behaviors appears to vary by adolescents' culture. Some research has found that exposure to suggestive dialogue and explicit sexual content were associated with sexual outcomes, but the direction of the effect varied among races and genders.[97] Much of this research has been done with white youth, however, so knowledge about differences in media influence by race and ethnicity differences is limited.

Research has shown that online self-representation among young African-American females either enthusiastically embraces or explicitly rejects sexual stereotypes that have been created by media.[98] Frequent music video viewing has been associated with African-American youth holding traditional gender role attitudes, endorsing sexual stereotypes, and being attracted more to "flash" than to "substance".[99] African-American females who saw many portrayals of sexual stereotypes in music videos were more likely to have negative body image and to have multiple sexual partners

than those who saw fewer such portrayals.[100] When compared to infrequent viewers, African-American female adolescents who more frequently watched rap music videos were found to be twice as likely to have multiple sexual partners and 1.5 times as likely to have contracted a STI.[101] One study found that African-American females who viewed pornography were more likely to have sex more often, to have more sexual partners, to not practice safe sex, to test positive for Chlamydia, and to want to become pregnant than did those who did not watch pornography.[102]

For many young users, the Internet is as familiar and comfortable a place in which to meet new people, make friends, and nurture relationships as the local shopping mall. As a result of its ease, ubiquity, and illusion of privacy, the Internet has emerged as a new, but little understood, environment for meeting sexual partners. Ninth graders in Minnesota who used chat rooms to connect with others were more likely than those who did not frequent chat rooms to demonstrate risk behaviors, including substance abuse and sexual intercourse.[103] Outbreaks of STIs have been traced to chat rooms specializing in specific sexual interests because they have served the traditional functions of bars, clubs and bathhouses by introducing people of similar sexual persuasions who arrange to meet for high risk anonymous encounters.[104; 105]

After controlling for age, gender, race, and socioeconomic status, a survey of 471 7th and 8th grade girls found that perceived societal permission for sexual activity communicated in popular media was found to be strongly associated with sexual intentions and activity. The amount of media consumption accounted for 13 percent of the variance in intending to have sex in the near future, 10 percent of the variance in light sexual activity, and 8 percent of the variance in heavy sexual activity.[61] A similar analysis showed that media normalization of and permission for sexual activity may be more powerful than parental influence. Data from the National Longitudinal Study of Adolescent Health demonstrated that adolescents whose parents limited their TV viewing to less than two hours a day had about half the rate of sexual initiation as adolescents whose parents strongly disapproved of sex, but did not limit TV viewing, resulting in the adolescent watching more than two hours of TV a day.[106]

Exposure to sexual content in media has consistently been associated with increases in sexual risk behaviors among youth. In longitudinal studies, the exposure to sexual media as a child or early adolescent predicts earlier sexual initiation, more sexual partners, and higher risk of pregnancy or STIs. Media have become a ubiquitous superpeer from which young people learn what to expect and what is expected of them. By normalizing and giving permission for sexual activity, permission that seems to override parental disapproval, media may be the most powerful and universal influence on young people's sexual attitudes and decision-making.

EXPERIMENTAL STUDIES OF THE RELATIONSHIP BETWEEN SEXUAL MEDIA AND SEXUAL BEHAVIOR

We have seen that young people are significantly exposed to sexual content in media and that exposure correlates with their sexual attitudes and behaviors. Most of these findings have been based on content analyses, cross-sectional surveys (a sample of adolescents at one point in time), and a few longitudinal panel studies (the same sample of adolescents measured at more than one time point). Such studies can point in the direction of media effects, but lack the controls necessary to be able to claim that the media *caused* the sexual attitude or behavior. Experimental research under controlled laboratory conditions is necessary to most confidently establish a hypothesized causal relationship between sexual portrayals in media and changes in sexual expectations, attitudes, and behaviors. Unfortunately, experimental studies in this domain are extremely limited, in part because the outcomes of interest are subtle shifts in attitudes and long-term changes in behavior.

A few intriguing experiments on the effects of listening to sexual music on adolescents' sexual attitudes have been conducted. Two of these experiments suggest that the sexual content in media may "prime" sexual thoughts in subsequent activities. One experiment, for example, found that older adolescents who listened to music with sexually provocative lyrics were more likely than those who listened to less sexually-oriented music to evaluate people in personal ads on their sexual attractiveness, calling them "sexy" and "desirable".[107] In the other experiment, white college students who listened to African-American women's sexual rap were more likely to judge the performers as "boy crazy", ascribing greater badness to them than to African-American women who performed "devoted love" music.[108]

Exposure to specific sexual content in music can affect expectations and beliefs about relationships. In one experiment, after brief exposure to misogynistic "gangsta rap" lyrics, males were more likely to endorse a model of adversarial relationships between the sexes.[109] Brief exposure by male college students to sexually violent and Christian heavy metal rock music resulted in increased gender role stereotyping and acceptance of violence against women.[110] In another experiment, after exposure to gender-stereotyped music videos, males were more likely to endorse adversarial sexual beliefs and females were more likely to accept interpersonal violence, when compared to a control group.[111] In an experiment designed to determine whether users' behavior would change after exposure to sexually demeaning media, male college students were given the choice to play neutral, assaultive, or sexually violent film excerpts for a female research partner. After listening to misogynistic rap music, 30 percent showed an assaultive clip to their female partner as compared to 7 percent of the young men who had heard neutral rap music.[112]

One of the few experiments that has been conducted on sexual content on broadcast television found that college students who were shown sexual TV content and perceived it as realistic, were more likely to endorse permissive sexual attitudes and to estimate that more of their female peers were sexually active than did youth who did not see the sexual TV content.[113]

In another experiment, male and female college students with different media experience responded differently to viewing of TV clips portraying stereotypes of women as sex objects, men as sexually motivated, or dating as a contest. Females who watched more TV and more music videos and identified strongly with female characters were more likely to endorse the portrayed sexual stereotypes. For males, only more hours of music video watching correlated with stronger endorsement of sexual stereotypes after viewing the TV clips.[99]

Unfortunately, much of the limited experimental research on the effects of sexual media content has focused on the most sexually explicit content and the most extreme sexual attitudes and behaviors. Although research on pornography offers only limited insight about the effects of mainstream media exposure on common sexual behaviors, such studies are relatively easy to conduct. Experimental subjects are shown pornographic films and researchers measure short term outcomes that are clearly distinguishable, such as belief in myths that rape victims want to be raped. Such research has shown that male adolescents were more likely to believe that women enjoy forced sex after seeing an excerpt in which a woman was portrayed as aroused by non-consenting intercourse.[114] In another study, males who watched films that portrayed violence against women as justifiable and with positive consequences showed significantly increased belief in rape myths and acceptance of violence against women as compared with males who saw films with no sexual violence. Females had the opposite reaction to the same films.[115] Examining broadcast television using a similar conceptual model, it was found that viewing music videos and/or professional wrestling was associated with increased acceptance of rape among adolescent males in a large

survey study.[116] Exposure to violent and nonviolent pornography was not found to influence "likelihood to rape" measures, however.[117]

Exposure to portrayals of male power and female submissiveness, sexually explicit or non-explicit, have resulted in short-term increases of rape-supportive attitudes.[118] Long-term exposure to media portrayals of sexual violence has been shown to result in desensitization and decreasing empathy for rape victims.[119] A recent experimental study found that men shown sexually explicit films degrading to women were more dominant in their subsequent interactions with a woman than men who saw non-degrading sexually explicit films. Those who were shown only the non-degrading but sexually explicit content were more dominant and anxious than those who had viewed only non-sexual content.[120] Both male and female viewers reported that they were more sexually aroused by the non-aggressive rather than aggressive sexually explicit portrayals.[121]

Experimental research is limited by artificiality of laboratory conditions and oversimplification of outcomes. Epidemiologic research is confounded by a host of co-occurring variables. Neither is sufficient, in and of itself, but together they present a consistency of findings that leads to the conclusion that unrealistic and incomplete entertainment media portrayals of sexual activity, implications, and outcomes contribute to elevated sexual risk-taking among young people who consume media.

IMPLICATIONS AND RECOMMENDATIONS

Children and youth spend more time using media than they do engaged in any other activity. They have more opportunity to learn about themselves, their sexuality, and the nature of relationships from media than they do from school, parents, or any other source, particularly in communities where sex education is limited or prohibited. Sexual content is prevalent and easy to access in a variety of media platforms from TV to the Internet, even at very young ages. In the Media Age, young people can obtain sexual images, narratives, and information more easily than ever before. Today's children and young people can access more explicit pornography with a single mouse click than most of their parents have seen in their lifetimes. Driven by the need for novelty to capture a larger audience share, sexual portrayals in media are increasingly frequent and explicit—what was shocking and attention—grabbing last week is old news today.

Because children and youth spend so much time with TV, music, and the Internet, media may be the source of first impressions and ongoing perceptions that are critical to the development of a young person's sexual attitudes, expectations, and behaviors. One area of concern yet to be researched is the effect of early, formative exposures to sex occurring in the form of Internet pornography. The Internet is primarily a venue of commerce. Sex is presented as a commodity that can be bought, sold, and traded. If young people's initial explorations of sex happen in the context of the sexual marketplace rather than learning about connecting and developing relationships with others, how are they to develop healthy concepts of romance, relationships, and responsibilities around sex? Seen in this context, the phenomenon of "friends with benefits," in which young people with no romantic relationship have sex with each other out of boredom or a need for "something to do," is hardly surprising.

Beyond providing first exposures to sexual material, for many youth the media establish norms for behavior and tacitly give permission for sexual activity by implying that "everybody is doing it." Research indicates that exposure to sexual media influences young people to overestimate the prevalence of sexual activity among their peers and to lower their own resistance to initiating sex. Given the limited, but significant evidence linking exposure to sexual content in entertainment media with subsequent changes in sexual attitudes and increases in risk behaviors, it is important that

parents, healthcare providers, and others committed to the healthy development of children and adolescents understand and respond to entertainment media as a powerful environmental influence on young people's health and well-being.

Media rating systems have been established by the entertainment industry to indicate the age-appropriateness of media content. Media producers encourage parents to use them, claiming they are accurate and effective, but many parents rightfully distrust the ratings. In a study that asked parents to independently rate the appropriateness of TV programs, movies, and computer/video games for use by children, current industry rating systems were consistently more lenient, varying by as much as 50 percent from what parents thought was right for their children.[122-124] In part, distrust of the ratings results from the fact that, as currently designed and implemented, entertainment media ratings are focused on social values rather than objective health outcomes. As a result, ratings are inconsistent, shifting in the winds of changing social norms. If parents do not share the values of the ratings board, they feel, rightly, that the ratings do not measure what they feel to be important. Another problem posed by the values-based ratings is the observed "backlash effect" of youth seeking material with more mature ratings to taste "the forbidden fruit" and establish themselves as individuals able to make choices independent from what their parents want for them.[125]

Internet safety measures have included technological fixes, such as software to filter or block the Internet from those it might threaten young people,[126] although there is legitimate concern that such software may hinder use of the Internet by youth to search for critical health information.[127] Increased supervision by adults and restrictions on media access result in reduced exposure, both in duration and content.[128] Both filtering software and education on Internet safety were found to reduce youth exposure to pornography.[67] Monitoring a chat room as been shown to effectively decrease the amount of profanity, but did not affect the prevalence of sexual language and conversation.[74; 75]

Comprehensive assessments of the research findings have come to the conclusion that rating systems, legal or industry restrictions, and technological "fixes" cannot be totally effective in protecting youth from the deleterious effects of media. Building on the research, key recommendations from the American Academy of Pediatrics and the American Psychological Association are for adults to help children and adolescents limit their exposure to sexual content in media, to teach them to deconstruct and decipher the messages they receive from media and popular culture, and for media producers to balance media portrayals of sex with accurate and practical information about the potential consequences of sexual activity.[23-26]

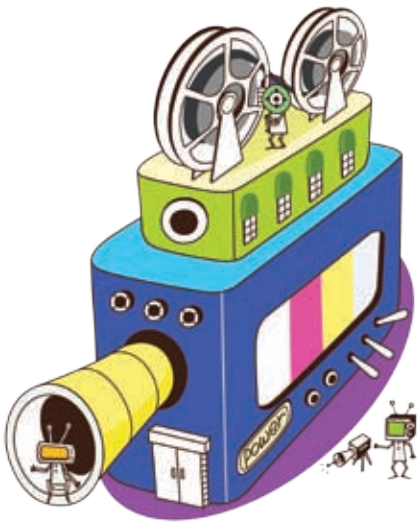
Young viewers and their families need to be educated about how to use media wisely and safely.[129] When asked directly about the relationship between sex in media and sexual behavior, nearly two-thirds (65 percent) of both adolescent and adult viewers denied any relationship, but 45 percent believed that sexual content in media could help start good conversations between youth and adults, with 19 percent believing that children could learn something good from this exposure.[130] In practice, family discussions about media content and regulation of media consumption are often used as a way for parents to communicate moral values to their pre-teen children.[131] As a public health intervention, themes communicated through broadcast television programming are much more effective when parents have watched the program with the young person and discussed it, as demonstrated by a single episode of *Friends* that portrayed condom failure resulting in pregnancy.[132] Nearly one-third of the viewers surveyed (1.67 million 12- to 17-year-old viewers saw the episode) were able to recall the information that condoms were between 95 percent and 100 percent effective. Almost half of the adolescents that watched and discussed the episode with an adult recalled the condom efficacy information,

which was nearly twice the proportion of those who did not discuss the episode with an adult.[132] Condom advertisements on TV were approved of by 83 percent of parents, 89 percent of female adolescents, and 92 percent of male adolescents.[133] Although parents' perceptions of their 11- to 16-year-old children's Internet exposure to negative sexual content were significantly lower than children's actual exposure, children whose parents reported high family cohesion and shared Internet activities were significantly less likely to be exposed to negative Internet content than those with lower family cohesion and fewer shared Internet experiences.[134]

Media use policies in the home can positively affect viewing habits. Families that are connected, communicative, and aware can be the most protective factor in a child's life.[135] However, as children progress into and through adolescence, the authority of parents and other adult figures diminishes, so the best protections are those that we can instill in youth themselves. Education has been proposed and implemented as a key part of health intervention.[136] As has been demonstrated with smoking portrayals,[137] "pre-inoculating" viewers with an educational "reality check" immediately before the risky media exposure is perhaps the most effective educational intervention.[138] **Media literacy**, the discipline of critical viewing of media and reducing unhealthy media exposure, is starting to show promise as an intervention on other media-related health effects, such as obesity and aggression. There is every reason to believe that increasing young people's media literacy would be a successful strategy to counter the influence of media on sexual attitudes and behaviors as well.

Media have our young people's time and attention. Ultimately, as is discussed in greater detail in the following chapters, the most effective response to media influence will be to use media to educate for sexual health.[139-141] TV has been shown to be a powerful tool for changing hearts and minds about rape,[142] homosexuality,[143] and open communication about safe sex practices.[130] Popular music can be used to explore sexual topics and promote health, as has been done in such curricula as "Exploring your Sexuality Through Current Rock".[144]

Today, we have more capability to connect, communicate, and entertain ourselves than ever before in history. Although their current quantity and quality of media exposure places adolescents at increased risk, it is a risk that, with increased awareness, education, and empowerment, they can manage. Media and the popular culture they create are so ubiquitous and insistent that many parents and caregivers often feel overwhelmed; it can be tempting to give up. However, the youth know, and we must all remember, that media are tools that we can use instead of letting them use us. New media technology and applications, from video-capable cell phones to Web 2.0 sites that promote creation and distribution of original media created by youth, present real opportunities for taking back the media and bringing forth the voice of the youth we serve. Through using media to connect, communicate, and build community, young people can simultaneously learn to assess the real from the false and, instead of allowing media to control them, control the media to share the knowledge, experience, and strategies that will allow them to grow up to be healthy, responsible, and safe.



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2.0 USING MEDIA TO ADDRESS ADOLESCENT SEXUAL HEALTH: LESSONS LEARNED ABROAD

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INTRODUCTION

In describing the need to engage in global education and learn from others who are different, John Dewey, an American philosopher, psychologist, and educator, said:

"We must unsettle ourselves and leave home to find home again. This is a shaking of one's own frame of mind, of one's unflagging faith, and familiar ways of thinking, in an encounter with different others. This encounter does not mean, however, to trivialize one's own culture and traditions; rather it aims at enriching it by leaving it.'"

Although Dewey discussed a literal leaving of home, his words also ring true on a metaphorical level. Specifically, professionals who work in domestic adolescent reproductive health programs can "leave home" and learn from international programs. Although the strategies used and the populations served may extend beyond the "familiar ways of thinking," the lessons learned from international efforts to address adolescent sexual health issues can enrich and improve programs here at home.

BACKGROUND

Because adolescents often are misinformed about sexual health and feel uncomfortable discussing sexual matters with their parents, mass media can be effective tools for providing accurate information around issues such as sexually transmitted infections (STIs) and contraception.[1; 2] Studies have found that youth—when asked to identify sources they use for sexual health information—list mass media among their top choices.[3-5] For example, one study of Japaese high school and university students found that after friends/acquaintances, magazines and television were cited most often as sources of sex-related information, while parents, teachers, healthcare providers, and sex education classes in school lagged far behind.[4] A survey of high school students in Zimbabwe found that newspapers, television, radio, and magazines were reported most often as being the first source of information they turn to when searching for information regarding AIDS.[3] Previous studies also have found an association between mass media exposure and preventive behavior, including condom use and condom use intentions among adolescents.[6; 7]

Public health organizations around the globe have crafted mass media interventions addressing reproductive health issues for a variety of audiences, including youth.[8-20] These interventions have employed a variety of **media strategies** (e.g. **entertainment-education** (**E-E**), **social marketing**), and **media channels**† (e.g. radio, magazines, television, Internet). Some interventions have been evaluated for effectiveness while others have not. In this chapter, we focus on the evaluation research literature describing the effects of international reproductive health mass media interventions on adolescents and youth.

To date, no other literature review has focused exclusively on international mass media interventions addressing adolescents' reproductive health. Several recent literature reviews have considered the success of international and domestic interventions addressing reproductive health issues, but

† Bold, underlined terms are defined in the Glossary (see page 126).

the preponderance of the interventions reviewed therein were for adult audiences, with no separate analysis for adolescents and for adults.[21-24] Overall, these reviews find that interventions have achieved some success in affecting reproductive knowledge, attitudes, and/or behavioral practices, yet interventions have not been universally successful. The lack of success for an intervention was posited as perhaps due to faulty design, implementation, or evaluation.[21; 22; 24] Nevertheless, these reviews suggested that well designed and implemented mass media interventions have the potential to affect individuals' knowledge, attitudes, and behaviors.

FRAMEWORK GUIDING THE LITERATURE REVIEW: INTERVENTION CHARACTERISTICS

To produce a review of the literature with direct linkages to practice, we decided to frame our analysis around seven characteristics that are commonly accepted as important components of health interventions. Previous research, either on youth reproductive health interventions or on mass media reproductive health interventions for general populations, supports these characteristics as important components.[6; 16; 21; 22; 24-28] International organizations have provided similar recommendations for developing quality health interventions focused on youth.[29-31]

Although commonly accepted by the international community as important components of quality health interventions, it is worth noting that the impact of most of these characteristics on actual outcomes has not been empirically examined. The reasons for this lack of empirical evidence are twofold. First, most of these characteristics are linked to the process of developing an intervention, and *process* is not typically included in summative evaluations, which tend to examine *outcomes*. Second, obtaining empirical evidence would require testing the relative strength of a characteristic by developing, implementing, and evaluating two versions of the same program, one with and one without the characteristic; few programs have resources necessary for such an approach. Nevertheless, the existing literature still suggests there is value to using these characteristics to guide our analysis. We propose these characteristics be considered as additional indicators of an intervention's potential for excellence, in addition to achieving success in knowledge, attitudinal, or behavioral outcomes. Therefore, our review considers interventions' empirical evidence (outcome data) in tandem with their application of the seven characteristics to yield practical recommendations for practitioners interested in developing youth sexual health mass media interventions.

- **Use of theory:** Theory has been found to be important in designing, implementing, and evaluating health interventions, including those using mass media.[32; 33] Having a theoretical foundation can "provide a road map for studying problems, developing appropriate interventions, and evaluating their successes."[32] Theory can help identify effective communication messages and approaches for specific audiences, as well as the knowledge, attitudinal, or behavioral concepts to evaluate. Theory can also help identify *pathways* as well as potential *barriers* to achieving the expected change.

- **Inclusion of contextual factors:** Although individuals are typically the focus of interventions seeking to improve sexual health, research suggests that an individual focus alone is insufficient.[34] Individuals' choices, attitudes, decisions, and behaviors are theorized to depend not only on their own characteristics, but also on their interactions with contextual factors in the environment around them—their family, social networks, school, community, as well as larger society.[35] These contextual factors provide distinct norms and rules, either explicit or implicit, that can influence, directly or indirectly, an adolescent's attitudes, beliefs, or even their ability or tendency to engage in certain behaviors.[36; 37] Moreover, the political environment, including government policies, may be barriers for promoting sexual health

issues for youth.[30; 38] Sexually active adolescents' contraceptive use, for example, may be shaped by multiple factors, such as perceived peer norms, concerns about parents' reactions, health providers' willingness to dispense contraceptives to minors, access to family planning clinics, and government policies regulating minors' access to contraception. Therefore, interventions could address factors not only at the individual level but also on a larger scale—such as aiming to change parental attitudes, health care provider practices, or school policies.

- **Involvement of youth:** Since the mid-to-late 1990s, international organizations such as the World Health Organization, the United Nations (UN), and UNESCO, have called for youth participation in the design, implementation, and evaluation of programs intended for youth.[29-31]

- **Involvement of other stakeholders:** Besides the intended audience of an intervention, there are often other key stakeholders whose involvement may be helpful, if not essential, to the eventual success of an intervention.[25; 28] Involvement can take many forms, from approval of the intervention's focus and content to active participation as a collaborative partner on various activities.[25] Examples of other stakeholders include parents, teachers, business owners, government officials, religious leaders, or other leaders from the local community.

METHODS

We identified relevant articles and papers by using predetermined key words to search online bibliographic databases, specific journals, and websites of organizations known to have conducted international mass media reproductive health programs for youth. Selecting publications was a two-step process. First, we read the abstract or summary of each publication to assess potential relevance. Second, we read and vetted potentially relevant publications to determine which interventions to include in our review. We used the following selection criteria:

- The intervention was implemented outside of the United States.
- The target audience included adolescents (ages 13 to 19) and/or young adults (ages 20 to 24). General population interventions were only included if the analysis offered findings specific to adolescent/young adult populations.
- The available publications for an intervention presented either formative or summative evaluation findings specific to adolescent/young adult populations. The articles were published within the past 20 years (October 1987 through October 2007).
- For summative evaluation, it was assessed whether participation/exposure to the intervention was associated with knowledge, attitudes and/or behavior related to sexual health (e.g. abstinence, condom use, limited number of sexual partners).
- Mass media (e.g., television, radio, print, Internet) played an integral role in the implementation of program objectives.

CASE STUDY:
MTV'S *STAYING ALIVE* MULTI-COUNTRY CAMPAIGN

OVERVIEW: In 2002, MTV's geared its global *Staying Alive* campaign to address the global impact of HIV/AIDS and promote prevention for youth ages 16 to 25. MTV broadcast the campaign worldwide over its 37 channels (the number of channels has since grown to 41) and made the entire campaign available rights-free to any third-party broadcaster who signed an agreement with MTV. As a result, approximately 800 million households worldwide had access to the campaign.[14; 20] The evaluation studies included data from Senegal, Brazil, and Nepal.

The primary objectives of this HIV/AIDS related campaign focused on increasing awareness and preventive behavior, reducing stigma and discrimination, and empowering young people to take action.[15]

MTV, along with other partners such as YouthNet, Family Health International, the Kaiser Family Foundation, the Bill and Melinda Gates Foundation, Levi's Jeans, and Population Services International's YouthAIDS project, envisioned a multi-media/multi-channel campaign that could be tailored to individual countries, depending on their needs, cultural values, and access to media. As a result, a variety of mass media activities were designed, including the following:

- A series of six public service announcements (PSAs) aired on MTV;
- A campaign Web site linked to **MTV.com** with links to information and resources;
- An hour–long documentary aired on MTV entitled "StayingAlive 4" which offered narratives of young people living with HIV/AIDS in different regions of the world; and

- Concerts held in Seattle, Washington, and Cape Town, South Africa which were aired on MTV on December 1, 2002, World AIDS Day. The concert comprised of approximately 60% content related to HIV/AIDS and 40% music.[15]

Additionally, in an attempt to help countries adapt the campaign to meet local needs, MTV created linkages to local youth programs.

FINDINGS: Because of the ability to tailor the campaign to country-specific needs, the interventions differed in the three evaluation countries (Senegal, Brazil, and Nepal). For example, in Senegal, local partners and community leaders found much of the MTV material too controversial and decided to instead develop their own campaign using the MTV material as inspiration. Given the different levels of access in each country, exposure also varied across sites, ranging from 12 percent to 82 percent. Exposure was greatest in Dakar, Senegal where 3rd party broadcasters broadcast the media in various outlets for a longer duration.[14; 20]

Positive impacts of the *Staying Alive* campaign were found in all three evaluation countries. For example, there was a positive association for all three sites between exposure to the campaign and HIV prevention beliefs. This association remained even after controlling for other factors such as gender, education, and previous sexual behavior. In addition, in all three sites, communication about HIV with more types of people was higher among people exposed to the campaign compared to those without exposure. Some impacts were site specific. For example, in Senegal, exposure to the *Staying Alive* campaign was also associated positively with gender equity beliefs. This same association was not found in the other two sites.[49]

Overall, the PSAs were deemed as the least successful component of the campaign by the collaborative partners.[15] Qualitative data further detailed that the PSAs were generally viewed as too Western and unrealistic. On the other side, qualitative data found that youth were emotionally involved with the youth narratives in the documentaries.

- **Attention to gender-specific needs:** Males and females can differ in their sexual health knowledge, attitudes, behaviors, and needs. They also use media in different ways. Therefore, public health practitioners consider it important, especially in regard to sexual behavior, to tailor interventions accordingly.[30]

- **Use of multiple mass media and/or multiple communication channels:** Interventions may rely on a single mass medium, such as television, on multi-media, such as radio in tandem with Internet, on non-media, such as interpersonal communication or community mobilization, or a combination of mediated and non-mediated communication channels, such as television amplified by community-based activities. An approach that includes multiple media and/or multiple channels, particularly the use of mass media in tandem with interpersonal communication, has previously been found to be more effective for behavior change than mass media alone.[28; 33; 39]

- **Evaluation of intervention:** Evaluation includes formative and summative research. Formative research, including the use of existing national behavioral or epidemiological data or studies of the intended audience, can help in the strategic design of interventions.[28] For example, formative research can help identify and justify the intervention's intended outcomes, as well as its selection of communication strategies (e.g., E-E, social marketing) and communication channels.

  Summative evaluation research describes the outcomes or effect of an intervention. A baseline survey may be conducted to identify pre-existing knowledge, attitudes, or behaviors prior to the implementation of the intervention. Because a baseline will provide a snapshot of individuals' knowledge, attitudes, and behaviors prior to an intervention, it can better assess the effect of an intervention when compared with the results from a survey conducted after the intervention. At times, however, it is not feasible to conduct baseline surveys, and summative evaluation may be based solely on post-intervention surveys.

RESULTS: INTERNATIONAL SEXUAL HEALTH MASS MEDIA HEALTH INTERVENTIONS

We identified 25 mass media interventions from 19 countries that addressed reproductive health issues and reported evaluation results. Table 2-1 describes the interventions and summarizes relevant findings. Of all the interventions included in this review, 19 were designed specifically for adolescents or young adults, whereas the remaining six were created for adult populations (older than age 15), but included results specific to adolescents/young adults. Twenty-three of the interventions were conducted in developing countries; the remaining two were carried out in Europe. Of the developing country interventions, two were in Brazil, three were in Asia, and the rest were in Africa. One of the interventions, MTV's "Staying Alive," was actually a global campaign, with evaluation research data available for Brazil, Nepal, and Senegal.[14; 15; 20]

The majority of the interventions focused on urban populations. The justification for this focus was based on the greater disease burden among urban populations and, in countries without universal television and radio access, better access to mass media among urban populations. Although the studies did not always mention the specific duration of an intervention, those that did indicated durations ranging from as short as 3 weeks[40; 41] to multiple years.[20]

The interventions relied on different media strategies, such as E-E, social marketing, and **public service announcement (PSA)** campaigns, to reach the intended audience. As can be seen in Table 2-1, many interventions used multiple media strategies.

E-E was used in whole or in part by many of the interventions.[9; 14; 20; 39; 21-50] By embedding informational or educational messages within popular entertainment formats, such as television/radio shows, music, or community theater, E-E offers emotional appeal in tandem with cognitive content.[28; 51] Nine interventions were specifically structured around E-E, reaching their intended audience through popular programming such as radio or television dramas.[9; 14; 20; 34; 39; 43; 44; 46; 47; 52] For example, "Tsha Tsha," a South African television drama developed for a youth audience, focused on relationships within the context of a society where HIV/AIDS has become commonplace.[9]

Social marketing, which applies commercial marketing strategies to behavioral change interventions[53], was also widely used to motivate adolescents to protect their reproductive health.[45; 54-60] Nine of the interventions centered around social marketing strategies to promote specific brands of condoms in conjunction with sexual health knowledge, attitudes, and behaviors.[18; 42; 45; 54; 56; 57; 59-62] In order to make condoms more affordable to the consumer, these social marketing campaigns often subsidized the condom brands—such as Protect, Prudence Plus, Trust, and Maximum—they promoted.

Of the remaining seven interventions, five promoted reproductive health issues primarily through informational campaigns that used PSA or other traditional mass media strategies.[39-41; 58; 60; 63; 64] Some of these mass media campaigns also incorporated elements of E-E and social marketing.[41; 58; 60] Although Zambia's "HEART" intervention was a PSA campaign and not an E-E intervention per se, it incorporated elements of E-E by delivering some of the specific PSA messages via entertaining narratives. For example, one of the PSAs incorporated elements of E-E by portraying a male adolescent having the four essential "Cs"—cash, cell phone, car, and condoms— with him, after his father had admonished him to act responsibly. Another 1-minute vignette showed a group of close friends discussing reasons they chose abstinence. The last two of the remaining seven interventions used mass media as the mechanism for making sexual health information accessible to youth.[17; 65] In China, for example, a sexual health website was developed for high school and university students.[17]

Although several of the mass media campaigns focused on preventing unwanted or unplanned pregnancies, the goal of most of the interventions was preventing STIs, in particular HIV/AIDS.[9; 20; 44; 52; 58; 64; 65] The primary focus of the condom social marketing campaigns was condom use, whether for STI or pregnancy prevention.[18; 45; 54; 56; 57; 59] Other interventions were structured around a general perspective of reproductive health and/or sexual responsibility. For example, the Chinese sexual health website focused on creating a safe space where youth could obtain answers to sexual health questions. General sexual and reproductive health information on topics ranging from sexual physiology and psychology to love and marriage to contraception was provided through the website's links to more than 200 web pages as well as through ten 10-minute educational videos. Individual questions could be asked either on a one-on-one basis through email to professional counselors or through bulletin board discussions.[17]

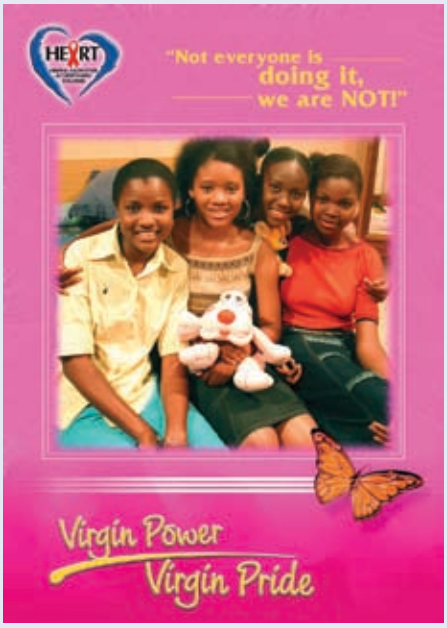
INTERVENTION OUTCOMES

A range of sexual health outcomes, from improvements in knowledge about pregnancy and STI prevention to safer sexual behaviors, were reported. The guiding assumption of most of the behavior change theories that informed the interventions is that, by influencing knowledge, attitudes, self-efficacy (the conviction that one could enact the desired behavior), social norms and/or intentions related to a particular behavior, interventions can directly or indirectly influence behaviors. Theory and evidence also suggest that behavior change is difficult to achieve quickly. As a result, intervention planners may pair a short-term goal of influencing knowledge or attitudes about a particular behavior with the longer-term goal of changing the behavior itself. Interventions, thus, may have an effect on some outcomes (often the short-term outcomes) and not others. The "Horizons Jeunes" campaign in

CASE STUDY:
HELPING EACH OTHER ACT RESPONSIBLY TOGETHER (HEART) CAMPAIGN IN ZAMBIA

OVERVIEW: The Helping Each other Act Responsibly Together (HEART) Campaign, designed specifically for youth ages 13-19 and by youth, sought to create a social context in which prevailing social norms could be discussed, questioned and reassessed.[58] The six-month long television and radio campaign comprised five public service announcements (PSAs):

- **Ice Garden Braii**, with the message to boys that condom use is cool and non-use is risky;
- **Choices I Make**, with abstinent boys reminding their peers of why they choose to be abstinent;
- **"When He Says . . ."**, with a series of lines from boys to which girls can reply, "no to sex" and maintain their "virgin power/virgin pride";
- **When it Matters**, with a message that condoms are not just for casual partners, but for consistent use with regular partners; and,
- **Mutale and Ing'utu**, with the message that you can't tell who is HIV+ by looking.

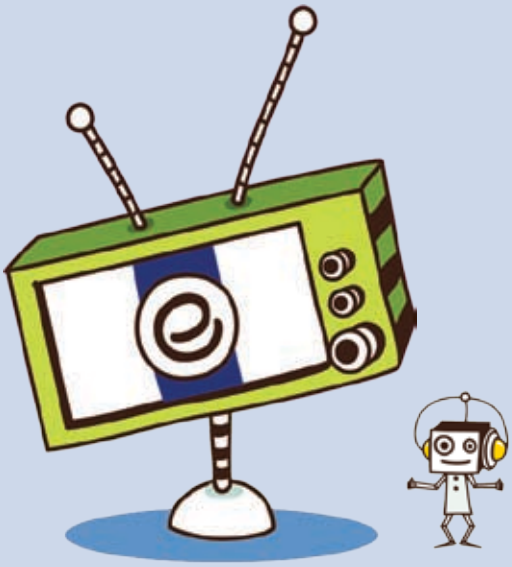


The HEART Campaign was implemented by Johns Hopkins University Center for Communication Programs in partnership with the Ministry of Health in Zambia, Population Services International, and several local non-governmental organizations. The overall goal of the campaign was to reduce the sexual transmission of HIV among youth in Zambia.

FINDINGS: Approximately 50% of Zambia adolescents saw the televised PSAs. Some 71% of urban youth and about 36% of rural respondents recalled at least 1 of the HEART TV ads. Nearly 43% of urban viewers and 14% of rural viewers recalled all 5 ads. Young people's level of general HIV-related knowledge, however, remained low after the campaign; fewer than 50% of respondents answered any given question correctly. At the same time, 74% of male viewers and 68% of female viewers reported that they took at least 1 action as a result of having seen the campaign.

Viewers compared with non-viewers were more likely to report that they were abstinent and, among those who were sexually active, more likely to report condom use.

There was also a dose effect: the more health PSAs the viewers recalled, the greater the likelihood that there was a measurable campaign effect. Viewers who recalled at least 3 television spots were 2.1 times more likely than were low-recall viewers and non-viewers to report condom use during last sex.



Cameroon, for example, found significantly higher levels of self-efficacy to use condoms among those exposed to the campaign, but no effects on consistent condom use.[18; 62] Such findings do not mean that the intervention failed, but rather that its effect was mixed. Below we discuss the outcomes reported for the interventions reviewed here in terms of knowledge, attitudes and behavior.

Knowledge

Whether the intervention was a condom social marketing campaign in sub-Saharan Africa,[6; 55] a soap opera in South Africa whose main protagonist becomes HIV positive,[9] or an Internet site in China that provided sex education,[17] most of the reviewed interventions evaluated changes in sexual health knowledge. Because none of the studies compared the effectiveness of one type of mass media strategy with another, it is not clear which of the strategies were more likely to change knowledge. Regardless of the strategy, exposure to interventions was generally associated with improved knowledge. Results, however, were often mixed, with knowledge about some issues unchanged. In the campaign "Promoting Sexual Responsibility among Young People in Zimbabwe," for example, correct knowledge improved significantly for only one of six questions posed—whether family planning methods can cause deformities.[39]

Attitudes

Attitude changes typically occurred in the desired direction, with exposed individuals more likely than unexposed individuals to espouse positive attitudes about condom use and users,[46] to recognize the severity of HIV,[61] and to express non-stigmatizing views of people living with HIV.[44; 47] Attitude changes among individuals were associated with exposure to various media strategies, from social marketing campaigns whose viewers expressed higher levels of self-efficacy and perceived social support for condoms[54] to E-E programs, whose viewers expressed increased self-efficacy to delay sex compared with non-viewers.[47]

Attitudinal changes were not always in the desired direction, however. For example, in "Love without Risk is a PLUS" (an E-E intervention in Côte D'Ivoire), the proportion of females who perceived peer support for sexual abstinence increased between the baseline survey and the follow-up survey. Simultaneously, however, the percentage of females who reported confidence in their ability (self-efficacy) to refuse sex without a condom with someone who gave them gifts decreased.[34] In sum, it is important to recognize that these changes were not uniform across all programs or even within programs. No single program had the same effect on all measured knowledge, attitudinal and social normative outcomes.

Behavior

Although several of the evaluations focused solely on knowledge and attitude changes, most also included some measure of behavior change. Compared to knowledge or attitude change, behavior change was even less consistent across interventions. The inconsistency was particularly true of interventions that had neither a television nor radio component, such as the Internet-based sex education site in China, and the single reading of a **photo-novella** about STIs in South Africa.[17; 46]

It is important to note that behavior change is not necessarily dependent on knowledge or attitudinal change. For example, the evaluation of "Promotion of Youth Responsibility" in Zimbabwe found that the campaign had little impact on general reproductive health knowledge and beliefs specific to gender roles. Youth from intervention sites, however, were more likely than youth from comparison sites to have had a discussion with someone about a range of reproductive health topics, such as STIs, whether to have sex, and where to buy contraceptives. Furthermore, youth from intervention sites were more likely to have reported visiting a health center, visiting a youth center, and saying no to sex.[39] Thus, it appears that the campaign stimulated interpersonal communication and sexual health behavior directly, rather than by first changing knowl-

edge or beliefs. While this could be a measurement error, it highlights the possibility that behavior change need not necessarily follow a linear path, from knowledge to attitudes to behavior.
A majority of the interventions (16 of the 25) did report some level of positive behavior change associated with exposure to the intervention. Behavioral outcomes included talking with others about reproductive health matters, visiting a health-care facility for reproductive health care services, or specific sexual behaviors. Nine of the interventions increased discussions of sexual health matters with others, the most commonly measured behavioral outcome.

Specific sexual behavior outcomes included delaying sexual onset, ever using family planning methods, consistently using condoms, or reducing the number of sexual partners. For example, delayed sexual debut among young women was associated with exposure to "Soul City" (an E-E intervention in South Africa) and "Horizons Jeunes" (a social marketing campaign in Cameroon that incorporated E-E).[47; 55] Moreover, sexually active young men who recalled the "Horizons Jeunes" campaign were less likely than young men in the comparison group to have two or more partners in the 30 days before the survey.[18; 55] Recall of a broad-based, multiple mass media PSA and social marketing campaign to reduce sexual risk behaviors in Zambia was associated with abstinence among male as well as among female adolescents. In this same campaign, however, condom use at last sex was associated only with above-average levels of program exposure, not with exposure more generally.[58]

Exposure to social marketing campaigns often was correlated with contraceptive use, which makes sense given that the focus of these interventions was to make specific contraceptives more affordable and accessible.[55; 56; 59; 60] The most common evaluation measures of condom use were condom use at last sex or ever having used a condom. One of the social marketing interventions, "100% Jeune" did measure consistent condom use, although the evaluation found that program exposure was not associated with consistent use among either males or females.[54]

Unfortunately, since none of the interventions directly tested the effectiveness of one kind of media strategy against another, it is not possible to say which approach was most effective in changing sexual health behaviors. A majority of the interventions in this review, however, found some evidence of positive behavior change suggesting that all three approaches—E-E, PSA campaigns, social marketing—should be considered when developing a mass media intervention based on the intended outcomes, goals, and available resources.

FRAMEWORK OF INTERVENTION CHARACTERISTICS

As described above, we identified seven characteristics that are potentially important in the creation of quality health interventions for youth, as suggested in the current literature. Using those characteristics as a framework to guide our analysis, we now turn to a detailed examination of their application in the interventions reviewed in this chapter.

Use of theory

Seventeen of the evaluations were informed by either a conceptual framework that incorporated constructs from several different theories or a single specific theory. In many cases, the interventions employed theoretical constructs, rather than a single theory in its entirety. Even among the evaluations that did not include an explicit reference to theory, we found evidence of shared assumptions about the roles that knowledge, attitudes, and self-efficacy have as precursors to protective behavioral outcomes.[40; 48] Some of the theories cited included the Health Belief Model, Theory of Reasoned Action, Steps to Behavior Change, Uses and Gratifications Theory, and Social Cognitive Theory (also sometimes referred to as Social Learning Theory). (See Appendix page 122 for additional information and references about key theories used in sexual health interventions.)

Because none of the interventions explicitly tested the effectiveness of a particular theory, it is not possible to say that one theory should be used rather than another. It is clear, however, that it is a common practice to use theory in the design, development, and evaluation of mass media interventions for youth sexual health. In selecting which theory to use, practitioners should look to the research literature to identify which theories have been most helpful for their health outcomes and populations of interest.

Inclusion of contextual factors

All 25 interventions focused on changing knowledge, attitudes, or behavior at the individual level. A majority (18) of the interventions addressed contextual factors such as perceived social norms,[58] peer and/or parental attitudes,[34; 56] and the larger environment.[18; 54; 56; 57; 62] These interventions used a variety of media strategies, including E-E, PSA campaigns and social marketing.

Interventions typically addressed contextual factors via their design but not in their evaluations. For example, "Soul City", a national E-E intervention not specifically focused on adolescents, was designed to influence policy changes and spark community action as well as individual behavior change.[66; 67] Among the literature regarding "Soul City", only the evaluation of the school curriculum, a component that was designed specifically for adolescents, met our selection criteria. Therefore, although other elements of "Soul City" may have addressed additional contextual factors, we were only able to include the literature specific to the school curriculum in our analysis. Recognizing that the school was a particularly important contextual factor for youth, the creators of "Soul City" partnered with the Departments of Health and Education to create a national life skills curriculum to address issues such as puberty, HIV/AIDS, and safer sexual behavior.[47] The curriculum was implemented concurrently with the E-E television and radio components of "Soul City". Evaluation findings suggested differential effects depending on whether participants were exposed to the school curriculum versus the E-E components. Exposure to the curriculum was associated with increased knowledge about puberty, knowledge about HIV, HIV risk perception, and condom use at last sex. On the other hand, exposure to the television components was positively associated with condom use knowledge, attitude towards people with HIV/AIDS, self-efficacy, and delay in sex, whereas exposure to the radio programs were positively associated only with attitude toward people with HIV/AIDS.

Because two key contextual constructs in social marketing are the price and the placement of a specific product, all of the social marketing interventions focused on changing access to goods and services at the family and community level. Specifically, increasing access to condoms was an explicit component and interventions used mechanisms such as having peer educators or youth volunteers serve as vendors and making condoms available at locations besides pharmacies (e.g., in hotels, bars, markets).[18; 54; 56; 57; 62] In several interventions specific retailers and clinics displayed signs with a logo that identified them as being youth-friendly, with the goal of creating a social and retail environment that facilitated rather than impeded access to reproductive health services.[44; 45; 50] None of the evaluations, however, explicitly examined the relationship between improved access to health services and behavioral outcomes. In other words, although the interventions addressed contextual factors in their design, because they did not measure access to these services, it is not possible to confirm whether addressing these factors was directly linked to individual outcomes.

Involvement of youth

Youth involvement across the interventions ran the gamut from inclusion only as research subjects, (e.g. participating in focus group discussions but not being involved in the analysis or application of the findings) to full participation in all phases of campaign development and implementation, as was true of Zambia's "HEART" campaign.[58] Given

the consensus among UN and development agencies that youth involvement is critical, we would anticipate that more youth involvement would be positively correlated with greater effects. We could not draw this conclusion, however, because none of the studies actually measured the impact of involving youth in the intervention. Most of the interventions involved youth solely as research subjects; only a few involved youth directly and throughout the development and implementation phases. So, although in principle it seems to be important to involve youth in interventions, this body of literature provides no clear evidence that it is or is not necessary for effective interventions. Additional research is necessary to make more conclusive remarks about the empirical value of including youth as more than the intervention's intended audience.

Involvement of other stakeholders

In 13 interventions, youth were the primary stakeholders involved. Social marketing interventions, however, often involved other stakeholders such as health care professionals, small business owners, and the private sector.[39; 45; 57; 62] The aim of a social marketing intervention in Botswana, for example, was to develop outlets where young people could feel at ease when purchasing condoms. Participating retailers who attended a workshop on adolescent sexual health counseling were given a sign to display that identified their retail outlets as youth-friendly.[18; 62]

Although seven interventions did mention involving additional stakeholders, none of them actually evaluated the impact of this involvement. Therefore, it is not possible to empirically conclude whether or not involving stakeholders is essential to achieve an intervention's desired outcomes.

Attention to gender-specific needs

Despite sharing many developmental needs and concerns, female and male adolescents have different vulnerabilities, expectations, and needs. Among this set of 25 interventions, however, only one was gender-specific in its design and implementation. A Brazilian Carnival campaign focused on empowering adolescent women around condom use.[40] Several other interventions, although not gender-specific, did create separate messages or components for males and females.[34; 58] Many evaluations for non gender-specific programs found differential intervention effects based on gender, suggesting that the intervention messages resonated differently for young men and women.[18; 54; 60] For example, exposure to "100% Jeune" was associated with greater confidence related to how to use a condom as well as less shyness regarding obtaining condoms among both males and females. At the same time, exposure to the intervention was associated with higher perceived risk of HIV infection and reported condom use for males only. The intervention's evaluators conclude that these differential effects suggest the "need for more and possibly different campaign activities to focus specifically on risk perception and self-efficacy among females".[54]

Unfortunately, program descriptions were not sufficiently detailed to help understand why some programs or messages were more compelling for young men than for young women or vice versa. It is unclear if differential effects were due to programmatic weaknesses or an effect of gender relations and norms. Although the gender differences found suggest the potential importance of creating interventions that take gender into consideration, additional research would be helpful in discerning the effectiveness of campaigns designed specifically for males or females.

Use of multiple mass media and/or multiple communication channels

The majority (19 of 25) of the mass media interventions reviewed here used multiple types of mass media and/or multiple channels by incorporating interpersonal communication activities. Of these, 13 specifically incorporated interpersonal communication activities, such as the use of peer education, community outreach, or interactive community theater presentations. Most of the interventions typically focused on one medium, either television

or radio, with other media reinforcing essential messages. MTV's "Staying Alive" intervention, for example, used television as the primary medium but also incorporated a website where youth could obtain supplementary information.[15] Newspaper advertisements and billboards were also commonly used as supplementary media. Only two of the evaluated interventions included the Internet as a primary medium of their intervention.[14; 15; 17; 20]

In general, several of the reviewed articles found concomitantly larger effects as the number of media channels to which the audience was exposed to increased.[39; 43; 60] Interventions that augmented multiple mass media campaigns by incorporating interpersonal communication activities were also effective. For example, an intervention in Tanzania using multiple mass media and multiple communication channels was most effective among adolescents who had spoken to a peer educator or health counselor as well as had been exposed to the media campaign.[6]

The power of multiple media and multiple communication channels can be explained in two ways. First, interventions employing multiple media and/or multiple communication channels offer a wide range of opportunities for the intended audience to take part in an intervention. Therefore, audience members are not only more likely to take part in at least one component of the intervention, but also more likely to be exposed to two or more components. As a result a "**dose effect**" occurs whereby as individuals are exposed to a greater amount of the intervention, the likely impact of that intervention on the individuals also increases. The "dose effect" was reported in many of the evaluations: the higher the levels of exposure, the more likely to find effects, including behavioral effects.[9; 39; 42; 58; 60] This was true of individuals who reported exposure to multiple PSAs, multiple-media sources, and interventions which included a media component along with another strategy such as a curriculum based-program.

Second, it is likely that mass media and interpersonal communication channels often serve different purposes. Although evidence exists that television and radio campaigns alone can affect behavioral outcomes, behavioral change may be more likely when a friend, peer, parent, teacher or health professional speaks directly with the youth. Once mass media introduce an idea or way of thinking, interpersonal communication can grant the idea credibility and acceptability. Sexual health interventions typically generate interpersonal communication through peer education or counseling. The media component of the intervention can also include messages that encourage more dialogue about reproductive health issues among peers, sexual partners, or even between parents and their adolescent children.[52]

Evaluation of intervention

Several interventions relied on formative research to gain a better sense of the intended audiences' needs and concerns or to learn what words and phrases they associate with different behaviors of interest. Formative research prior to the creation of an intervention could be used to better tailor messages to or develop products for the intended audience. During the formative research phase of a Kenyan social marketing campaign, focus group discussions suggested that individuals associated condom use with immorality. They also listed trusting a partner as a reason for not using condoms. The insight garnered through these discussions helped develop the "Trust" condom brand.[61]

While not citing specific formative research, several youth-focused social marketing campaigns justified their strategy selection based on the fact that they were creating a youth-specific component of an already existing and successful national social marketing campaign.[62] Fewer publications were explicit in the justification for their selection of specific mass media. MTV's "Staying Alive" campaign, however, argued for their use of television and especially the MTV global network by citing studies that describe a global youth culture that transcends borders and merges "different cultures via global media".[14]

Although a number of summative evaluation designs are valuable, baseline surveys that measure the outcome variables before the intervention are an important component of most designs. Slightly more than half (14 of 25) of the interventions reviewed here reported having conducted some form of baseline study. Of these, one of the interventions reported only baseline data, with no follow-up survey to assess the effect of the intervention.[65] (As noted under the Methods section, this review included interventions that had either summative or formative evaluations.) For the 11 interventions that did not include a baseline survey, it is not possible to compare knowledge, attitudes, and behavior among the target audience before and after the intervention. The only possible comparisons then are differences in knowledge, attitudes and behavior between individuals exposed to the intervention and individuals not exposed to the intervention. The majority of summative evaluations suffered from at least one of five limitations (See Limitations in Summative Evaluations Text Box page 56).

LESSONS LEARNED: IMPLICATIONS AND RECOMMENDATIONS FOR INTERVENTIONS IN THE UNITED STATES

This review of 25 international mass media interventions has important implications for practitioners in the United States who want to create mass media interventions to improve adolescents' sexual health. The review was guided by a framework which included seven characteristics of interventions previously recommended by relevant research and international organizations. Not all the previously recommended characteristics were empirically supported by the interventions analyzed here, however. Only a few of the interventions attended to gender-specific needs, for example. And little was done to include youth as more than research participants in most of the interventions. Furthermore, it is also the case that while some of the characteristics examined above factored prominently in the design of the interventions, their impact on the desired outcomes was not evaluated separately, making it difficult to conclude empirically whether their inclusion was critical to the success of an intervention.

Nonetheless, we believe there is some support for factoring various elements of these characteristics into a mass-media campaign, and this is reflected in our recommendations below. For example, the dearth of results in the literature pertaining to gender-specific and youth-focused interventions offer an untapped opportunity to further explore the potential that these elements could add to program success. Moreover, while the empirical results reported in the evaluations do not specifically assess the value of gender specific interventions, the differential results obtained by gender suggests they may be important.

Based on our analysis of intervention outcomes and application of intervention characteristics, we offer four recommendations to professionals and organizations interested in developing mass media interventions about adolescent sexual health in the United States.

1. ENSURE THAT YOUR INTERVENTION IS APPROPRIATE FOR YOUR INTENDED AUDIENCE

One of the critical steps to ensuring intervention appropriateness is to engage in formative research to get to know and understand the intended audience. Several interventions reviewed here, for example, found that promoting condom use for STI prevention rather than for pregnancy prevention had limited appeal.[56; 61] In Cameroon's "Horizons Jeunes," evaluators found that adolescents were more concerned with preventing pregnancy than in preventing STIs.[56] Therefore, if a campaign is interested in promoting condoms for sexually active adolescents with similar attitudes, it may be that focusing on the fact that condoms can help protect against STIs will prove an unconvincing argument

LIMITATIONS IN SUMMATIVE EVALUATIONS

1. LACK OF BEFORE-AND-AFTER DATA

Most of the evaluations collected only cross-sectional data. The problem with having only a cross-sectional sample rather than a panel of potential audience members who can be re-interviewed after the intervention is that respondents who say they remember the campaign may be predisposed to recall those messages because the recommendations are in keeping with their own pre-established attitudes or actions. In other words, it could be that their beliefs or behaviors predisposed them to recall a particular intervention—and thus, report exposure to it—because it communicated messages that were consonant with their own pre-intervention notions or practices. In short, their prior beliefs or behaviors may have caused them to recall the message or intervention rather than the intervention actually affecting any change. This possibility is known as "self-selection" or "selectivity bias."

Selectivity bias can be avoided in several ways. An experimental design, which randomly assigns individuals to intervention and comparison groups, thereby eliminating selectivity bias, is often considered the gold standard in public health research. As many communication scholars have noted[9; 28; 33; 62; 68], it is often extremely difficult, if not impossible, to randomly assign members of a target audience to comparison and intervention groups because the mass media often reach a national audience.

When randomization is not a viable option, the evaluator should select the strongest possible feasible design.[69] One alternative is to employ a quasi-experimental study design which identifies intervention and comparison communities, although it often remains unfeasible to control exposure to mass media that is distributed nationally[62]. Longitudinal panel studies, in which the same individuals are interviewed before and after exposure to a media intervention, can eliminate the potential for a self-selectivity bias. Cross-sectional studies, in which different samples of individuals are interviewed before and after an intervention, allow the evaluators to measure changes between pre-intervention and post-intervention, but do not account for self-selection. Often, however, the costs of pre- and post-intervention studies can be prohibitive. An alternative is to conduct a single cross-sectional study after an intervention, but this study design neither has a baseline against which to measure changes over time nor does it account for self-selectivity bias. Whether relying on a single, post-intervention survey or two cross-sectional studies—one pre-intervention and one post-intervention—it is necessary to use statistical techniques to account for the possibility of self-selection. One such technique is the endogeneity test[58; 70] and a second is propensity score testing.[9; 69] A description of these statistical methods lies beyond the scope of this chapter, but can be found elsewhere.[71; 72]

2. USE OF SELF-REPORT DATA

Most of the evaluations used measures of sexual knowledge, attitudes, and behaviors that were based on self-report. Although self-report is the only feasible way to measure sexually-related behaviors, some approaches, such as self-administered surveys and computer-assisted self-interviewing, may be better than interviewer-administered surveys in reducing the possibility of missing data and increasing more truthful disclosure about sensitive topics. The limited literacy of many respondents, however, means that most of the studies in this review collected survey data using interviewers. It is possible, therefore, that adolescent respondents in those studies may not have fully disclosed their sexual practices.

3. DIFFICULTY OF DISENTANGLING EFFECTS IN INTERVENTIONS USING MULTIPLE MASS MEDIA AND/OR MULTIPLE COMMUNICATION-CHANNELS

Although it is generally considered a strength that interventions use multiple types of media as well as interpersonal communication, it is often difficult to assess which components are more effective than others. For example, Uganda's "Delivery of Improved Services for Health" incorporated multiple types of mass media (radio, television, and print) in their campaign. The intervention also included a logo campaign to brand health care facilities as well as social marketing efforts to promote Protector Condoms. Although the program showed dose-response effects for both males and females, it was not possible to fully assess which type of mass media or intervention was most effective.[60]

4. LACK OF AGE STRATIFICATION IN ANALYSIS

None of the six interventions created for adult populations (older than age 15) stratified the evaluation analyses by age. Instead, the studies typically reported no difference due to age or statistically controlled for any observed differences. Without a close examination of age differences, it is not possible to identify specific factors that may have been more important in achieving outcomes for adolescents and young adults than for the general adult population. It could be, for example, that demographic factors, such as gender might affect outcomes for youth but not for adults. Because the evaluation analyses did not distinguish adolescents/young adults from older adults, it was not possible to draw conclusions about the unique effects of the intervention on young people.

5. QUESTIONABLE MEASURES OF EXPOSURE TO AN INTERVENTION

In some instances, interventions used problematic measures of exposure. For example, the evaluation of the embedded HIV/AIDS messages in the "Bold and the Beautiful" soap opera measured exposure as individuals who "ever watched" the soap opera, rather than the specific HIV/AIDS storyline.[44] Although viewers as compared to non-viewers of the soap opera had statistically significant lower HIV-related stigma scores, it was not possible to ascertain whether the difference was due to exposure to the soap opera, exposure to the HIV-related storyline, or some other factor in which viewers differed from non-viewers.

Other evaluations failed to measure any exposure to the intervention. For example, in several social marketing campaigns in Africa, the evaluations assessed impact by comparing the intervention sites with comparison sites, but did not include the individual youth's level of exposure in the analyses.[18; 62] Evaluators assumed that designating comparison and intervention sites would be sufficient to study the impact of campaigns. General exposure to campaigns was low in several intervention sites. For example, in South Africa and Guinea only 25 percent and 27.5 percent of respondents, respectively, reported exposure to the intervention. By classifying 100 percent of respondents from intervention sites as "exposed" to the intervention—when true exposure was approximately one-quarter— the measured effects likely were diluted. It is likely, therefore, that the impact of the campaign on those youth who were actually exposed was greater than reported.

Although these limitations do not gravely diminish the soundness of the intervention evaluations, several hinder the conclusions that can be drawn about the impact of mass media reproductive health interventions on adolescents. As a result, we stress the need to conduct further research evaluating the effect of mass media interventions on youth sexual health to establish a stronger body of evidence that can inform the development and implementation of future interventions.

for condom use. During the formative research phase of a Kenyan social marketing campaign, focus group discussions were instrumental in the development of the "Trust" condom brand.[61] Both of these examples illustrate the need for campaign planners to know the pre-existing attitudes and beliefs about the specific behaviors an intervention intends to promote.

Another element of ensuring intervention appropriateness is flexibility. Creators of interventions must be open to the possibility that certain messages or approaches may be appropriate for one segment of the intended audience but not for another.[30] In Senegal, for example, MTV's "Staying Alive" messages were deemed too explicit and Westernized. As a result, the messages produced by MTV were used as inspiration but not as the foundation for Senegal's locally produced campaign. Campaign planners in Brazil, in contrast, thought that MTV's PSAs did not accurately reflect the sexual reality of Brazilian youth. They, too, developed their own more culturally appropriate PSAs.[14]

A disadvantage of such flexibility, however, is that sound evaluation is confounded. Due to the significant differences in campaign messages and activities, evaluators of the MTV global campaign could not compare effectiveness across sites. Nevertheless, it was through the flexibility that "Staying Alive" was able to be implemented in a culturally relevant manner across various locations.

In addition to being flexible, interventions should also try to incorporate the insight, ideas, and experience of youth in the creation and implementation of interventions.[30] As previously mentioned, the reviewed interventions did not provide sufficient evidence to conclude that involving youth would lead to greater knowledge, attitudinal, or behavioral change among youth. Nevertheless, meaningfully involving youth in the design and implementation of an intervention may ensure that it is more appropriate for as well as foster greater buy-in among youth.

2. DESIGN INTERVENTIONS THAT EFFECT CHANGE BEYOND THE INDIVIDUAL LEVEL

A number of interventions which achieved knowledge, attitudinal, or behavioral change, included components to increase adolescents' access to goods (e.g., condoms, oral contraceptives) and services (e.g., youth-friendly health centers).[18; 39; 45] Interventions that explicitly address contextual factors in their design help to establish environments which foster the likelihood that individuals are able to make and sustain changes to improve their sexual health. Another suggestion for addressing contextual factors is to tailor activities for parents aimed at fostering improved communication between parent and adolescent child.[54]

It is important, however, to recognize the existence of competing messages in the environment that may create barriers and hinder interventions. As suggested in Chapter 1, entertainment media may promote unhealthy and even contradictory messages that simultaneously appeal to adolescents. As previously mentioned, the political environment may also challenge the development and implementation of interventions. It is important, therefore, for developers of interventions to anticipate potential barriers and establish contingency plans should such barriers arise. Moreover, fostering collaborative relationships with stakeholders, such as non-profit organizations, business owners, media professionals, and government officials can help to proactively address potential barriers as well as mobilize resources, maximize already-existing infrastructure, and ensure necessary buy-in.

3. INCLUDE MULTIPLE TYPES OF MASS MEDIA AS WELL AS ELEMENTS OF INTERPERSONAL COMMUNICATION

Well-crafted, high-quality, multiple mass media interventions can maximize potential exposure to messages because they can reach more people more often. In addition, some segments of the intended audience may prefer or have greater access to a particular medium. For example, in the

MTV "Staying Alive" campaign, the level of access to MTV varied across countries. As a result, MTV adapted its programming into radio and Internet formats to expand its reach.[14]

Regardless of whether one or multiple types of mass media are used, interventions can add depth by incorporating interpersonal communication activities in conjunction with the use of mass media. Such a comprehensive approach may be challenging for programs or organizations with limited financial and human resources. It is possible, however, to collaborate with partners (e.g., other organizations, businesses, individuals) to ensure the creation of interventions using multiple mass media and multiple communication channels. For example, in "Staying Alive", the local radio and television media professionals were key collaborators in the development and distribution of the campaign.[14]

It is important to reach as much of the intended audience as frequently as possible. Offering the audience repeat opportunities to view or take part in an intervention allows for greater exposure as well as a higher "dose" of specific health messages. Overall, the interventions in this review that were most effective, in terms of achieving desired outcomes, were not only those that relied on more than one communication channel, but also those that were sustained over a longer duration and/or those that repeated messages regardless of duration of the overall intervention.[14; 18; 62] In short, the more opportunities for exposure—whether due to the use of more than one communication channel or a result of campaign duration—the more likely the campaign will achieve its goals. A case in point is the study included in this review that evaluated four separate social marketing interventions conducted by Population Services International in sub-Saharan Africa. The most effective intervention was implemented in Cameroon. Compared to the other three countries, Cameroon's intervention ran the longest and employed various types of mass media (e.g., radio, television, and print) as well as interpersonal communication activities such as peer education, youth clubs, and youth-oriented promotional events (e.g., presentations at local soccer games, theatrical sketches).[18]

In applying this recommendation in the United States, it is important to note that adolescents' media diets may not be similar across countries. Many of the international interventions reviewed in this chapter were based in resource-poor settings with few mass media options, such as only a limited number of radio or television stations. Adolescents in the United States, on the other hand, are likely to have access to a large variety of mass media options, including cable/satellite television stations, multiple radio stations, etc. As a result, professionals working in the United States should not necessarily focus on the specific types of media that were used in international contexts but rather embrace the notion of selecting multiple media that are appealing to and appropriate for the intended audience. Moreover, this wealth of options in the United States creates a different challenge for program developers. For example, it is likely that an intervention that places its emphasis on a single television channel will find that exposure among the intended audience is diluted. Incorporating multiple types of mass media within an intervention, therefore, might increase the likelihood of exposure to a particular campaign because individuals can access the campaign in a variety of ways. Implementing interventions that offer multiple opportunities for exposure and last longer may be difficult, however, for programs with limited resources. With thorough formative research and strategic collaborative partnerships, program planners can maximize a limited budget and identify creative ways to establish multiple exposure opportunities.

4. PLAN FOR THE EVALUATION

Practitioners in the United States need to be cognizant of the importance of sound evaluations. Evaluation planning must begin in tandem with program conceptualization and design. Comprehensive evaluation planning begins with formative

research, which guides not only the initial assessment of the intended audience's needs and the selection of an appropriate program design, but also provides insight into what questions to include in the evaluation. If at all possible, the evaluation should include a baseline study for the previously stated reasons.

Preparing for the evaluation from the beginning will compel program implementers to conduct formative research, set forth their programmatic objectives, make their assumptions explicit about how the program will affect the intended audience, and provide a basis for measuring changes over time. Sound evaluations will, by virtue of directing the planners to take a systematic approach, enhance the success of the interventions, guide practitioners as they redesign or plan for the next phase of an intervention, and contribute significantly to the expanding body of knowledge regarding how to create effective mass media programs to protect adolescents' sexual health.

CONCLUSION

This review synthesized current available research literature on international mass media interventions for adolescent sexual health. Although many of the 25 interventions identified were limited by methodological flaws in their evaluation, it is possible to draw some important conclusions about what design, implementation and evaluation elements may make for successful media interventions for adolescents' sexual heath in the United States.

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TABLE 2-1 SUMMARY OF INTERNATIONAL SEXUAL HEALTH MASS MEDIA INTERVENTIONS

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
100% Jeune[54]	Africa: Cameroon	• **Social marketing campaign** that included both media and interpersonal communication (IPC) activities. • The urban intervention focused on male condoms (Prudence Plus), female condoms (Protectiv), Depo-Provera, and OCs (Novelle). • The evaluation focused only on condom use.	☑ Use of theory: Concepts from three major theories (Health Belief Model, Social Cognitive Theory, and Theory of Reasoned Action) ☑ Inclusion of contextual factors ☑ Involvement of youth ☑ Involvement of other stakeholders ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • 64.5% heard the radio spots; • 70.7% saw the TV spots in the previous 3 months; • 26% of youth reported hearing the radio drama; • 73.9% read at least one issue of the magazine; • 31.9% heard of the youth-friendly outlets in previous 3 months, but only 5.5% visited one; • Exposure to the program associated with significantly higher levels of self-efficacy and perceived social support for condom use; and • Data show a strong association between program exposure and respondents' reported knowledge of correct condom use. **Effects:** • Among **males** and **females**, increase in exposure to the program was associated with the following: ◦ increased confidence about how to correctly use a condom; and ◦ lower levels of shyness about obtaining condoms • For **males only**, program exposure was associated with the following: ◦ higher perceived risk; and ◦ several indicators of condom use, including use at last sex. Program exposure was not associated with consistent condom use, for either males or females

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Carnival Campaign[40]	Latin America: Brazil	• Approximately 1-month **public service announcement (PSA)** campaign using television (TV), radio, and print during Carnival in Brazil; carried out in 86 cities and 22 states. • Kelly Key (a famous singer) was used as a role model to empower young women to not be ashamed to purchase condoms and demand that their boyfriends use them. She was a controversial choice, but the Ministry of Health supported the decision due to her popularity with the intended audience of young women.	☑ Use of theory: Social Cognitive Theory ☑ Inclusion of contextual factors ☑ Attention to gender-specific needs ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • TV was the most effective medium in reaching the desired audience with 81% of the target audience reporting exposure. **Effects:** • The more the young women saw campaign messages on TV or billboards, the more they supported the norm that favors the participation of women in the purchase of condoms. • TV announcements helped to generate discussions about AIDS in the social environments of the young women. • Only about ¼ of respondents discussed the TV ad or heard someone discuss the ads.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Fiesta condoms, "Safety can be fun"[45]	Asia: Indonesia	• Multi-year **social marketing** condom campaign. • The urban intervention also included a 15 second TV commercial, integrated **entertainment-education (E-E)** through Hard Rock events and concerts, and informational campaigns through mobile text messaging and radio programs. • Partner non-governmental organizations (NGOs) also conducted educational outreach.	☑ Inclusion of contextual factors ☑ Involvement of other stakeholders ☑ Use of multiple mass media and/or multiple communication channels	**Effects:** • Fiesta condom reportedly became seen as the "youth" condom brand, with more than 10% of the overall market share over a 3-year period. • In the focus group discussions, participants reported strong brand association of Fiesta condoms as being for youth.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Helping Each other Act Responsibly Together (HEART)[58]	Africa: Zambia	• Multi-media campaign that used TV, radio ads, music, music videos, and print material. **PSAs** were a focus of the campaign, which also included some elements of **E-E** and **social marketing**. • Also included community-based efforts in the rural areas (this component not evaluated in the surveys). • Of, by, and for youth, the campaign features young people who convey peer-designed messages aimed at Zambian adolescents. • Separate messages were designed for adolescent girls and adolescent boys.	☑ Use of theory: Revised Stages of Behavior Change ☑ Involvement of youth ☑ Involvement of other stakeholders	**Exposure:** • Approximately 50% of Zambia adolescents saw the televised PSAs: ◦ 71% of urban youth and 36% of rural respondents recalled at least 1 of the HEART TV ads; and ◦ Nearly 43% of urban viewers and 14% of rural viewers recalled all 5 ads. **Effects:** • HIV-related knowledge remained low after the campaign: ◦ less than 50% of respondents answered any given question correctly. • 74% of males and 68% of females who saw the PSAs reported taking at least 1 action as a result of seeing the PSAs. • There was a dose effect and a greater number of PSAs viewed led to greater behavioral effects: ◦ Viewers who recalled at least 3 television spots were 2.1 times more likely than were low-recall viewers and non-viewers to report condom use during last sex. See page 48 for additional details.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Horizon Jeunes[18; 62]	Africa: Cameroon	• Thirteen month adolescent intervention integrated into larger nationwide **social marketing** program. • This urban intervention included some elements of **E-E**, including radio talk shows and print materials. • The adolescent intervention also included peer education, youth clubs, and youth-oriented promotional events (e.g., presentations at local soccer games, theatrical sketches).	☑ Use of theory: Health Belief Model ☑ Inclusion of contextual factors ☑ Involvement of youth ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • 91% of intervention sample had heard of the program, with about 66% having had some form of personal contact with the program. **Effects:** • Among females: Over time, comparing the intervention and comparison groups, there was a net positive effect for: ◦ ever used a condom; ◦ used a condom for family planning; ◦ delayed onset of sexual activity; ◦ perceived that they are responsible for protection; ◦ knowledge about condoms and pills; and ◦ perceived their risk for STIs/AIDS. • Among males: Over time, comparing the intervention and comparison groups, there was a net positive effect for: ◦ used birth control pills for family planning; ◦ knowledge about condoms and birth control pills; and ◦ perceived their risk for STIs/AIDS. ◦ Sexually active men in the intervention group were less likely than men in the comparison group to have 2 or more partners in last 30 days.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Interrail[63]	Europe: Norway	• **PSA campaign** using television, print, and music to address HIV/AIDS. The main message was that using condoms can prevent HIV transmission.	☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • Exposure to the campaign generally was low, ranging from 20.7% on television to 50.1% for the song. **Other findings:** • Inter-personal communication served as mediator for relationship between sexual experience, educational aspirations, gender, and awareness of campaign. Generally, females had higher levels of awareness of campaign compared to males, across most media sources.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Laduma[46]	Africa: South Africa	• School-based interventions which involved one-time reading of a print **photo-novella**, Laduma, which used **E-E** to provide information about sex and STIs.	☑ Use of theory: Participatory Approach which is grounded in theories of health promotion and social learning ☑ Inclusion of contextual factors ☑ Involvement of youth	**Effects:** • Among females: ◦ Reading Laduma contributed to a more positive attitude toward condom use. • Among males: ◦ Reading Laduma contributed to a more positive attitude toward condom use. ◦ Male learners reading Laduma reported a more positive attitude towards people infected with an STI or HIV/AIDS, lasting at least 6 weeks. • Over time, compared to participants in the control group, the intervention group expressed more: ◦ knowledge about STIs; ◦ favorable attitudes towards condom use; and ◦ intention to use condoms in the next year. • The intervention had no significant effect on the following: ◦ communication with boy/girlfriend; ◦ communication with other friends; ◦ communication with parents; or ◦ sexual intercourse.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
loveLife[52]	Africa: South Africa	• **E-E** intervention which combined media program (using TV, radio, and print) with a national telephone hotline, community outreach, community youth centers, and adolescent friendly services.	☑ Use of theory: Developed a model of behavior change for the intervention (not specified) ☑ Inclusion of contextual factors ☑ Involvement of youth ☑ Use of multiple mass media and/or multiple communication channels	Findings from Year 2 of campaign. **Exposure:** • Approximately 62% of youth reported having heard of loveLife. **Effects:** • When this group was asked whether they took any action as a result of exposure to loveLife, they reported the following: ◦ 64% had conversations with their parents about AIDS; ◦ 46% had conversations with their parents about sex; ◦ 58% talked with family, friends, or other people about loveLife or lifestyle issues in general; ◦ 39% searched for more information about sex; ◦ 20% visited a clinic or private doctor; and ◦ 23% did not take any personal action. **Effects of the Hotline:** • An equal number of males and females called the youth hotline, with 47% of calls being about relationships. • More than 52% of callers had never talked about their problems with anyone before calling the hotline.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Love Without Risk is a PLUS[34]	Africa: Cote D'Ivoire	• Urban and semi-urban multi-media **E-E** intervention, included TV, radio, print, and a photo-novella, and emphasized "positive deviant behaviors." • The intervention also incorporated community events (i.e. contests, rallies, sports events).	☑ Inclusion of contextual factors ☑ Involvement of youth ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • 65% of survey respondents were exposed to at least one campaign activity or material. **Effects:** • **Increases** in the following: ◦ Percent of females who perceived peer support for sexual abstinence; ◦ Percent of females who discussed sexual abstinence; and ◦ Percent of males who encouraged someone to use condoms. • **Decrease** in the percent of females who perceived self-efficacy to refuse sex.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Mon Avenir D'Abord ("My Future First")[57; 62]	Africa: Guinea	• Approximately 8-month adolescent urban intervention integrated into larger nationwide **social marketing** program. • The nationwide program distributes Prudence Plus (condoms), Planyl (OCs), and Depo-Provera. • The adolescent component promoted the condom "Prudence Plus" using social marketing along with elements of **E-E**. • Peer educators also conducted monthly discussion meetings, organized educational theater, as well as dances and soccer tournaments.	☑ Use of theory: Health Belief Model ☑ Inclusion of contextual factors ☑ Involvement of youth ☑ Involvement of other stakeholders ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • Only 27.5% of youth (38.9% men and 14.5% females) in intervention sites reported participation in program. **Effects:** Among males: • Over time, the prevalence reporting "usually uses condoms" and "used condoms at last sexual encounter" increased for the intervention group while decreasing in the comparison group. Soccer events were the most popular activities. Among females: • Condom use decreased over time in both the comparison and intervention groups, for both "usually uses condoms" and "used condoms at last sexual encounter". Discussion groups were the most popular activities. **Other findings:** • Comparison sites had greater increases in perceived awareness of sexual risk and knowledge questions compared to intervention sites. • No change in sexual activity for males or females in intervention groups.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
name unspecified [62]	Africa: South Africa	• Eleven-month **social marketing** campaign, focused on adolescents, with some elements of **E-E**. • This urban intervention was integrated into a larger nationwide social marketing program	☑ Use of theory: Health Belief Model ☑ Inclusion of contextual factors ☑ Involvement of youth ☑ Involvement of other stakeholders ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • Only 25% of youth reported exposure to the intervention. Exposure was low because the peer educators were unable to reach a large portion of youth due to the intervention town's large population. ◦ Also, the town's radio station was relatively new, so it reached only about 10% of the population. **Effects:** • Among females: ◦ Over time, comparing the intervention and comparison groups, there was a net positive impact for the following: - belief that abstinence protects against pregnancy • Among males: ◦ There were no results for males due to data collection errors among the males. **Other findings:** • The only behavior with a net effect was using condoms for pregnancy prevention, although the effect was negative. In other words, comparison sites improved whereas intervention sites worsened over time.
name unspecified [65]	Africa: Malawi	• Multi-year in-school life-skills education curriculum that used media used in extra curricular AIDS clubs, with a focus on improving the social environment through peer education and youth clubs. • The intervention also incorporated radio, music, and music videos.	☑ Inclusion of contextual factors ☑ Use of multiple mass media and/or multiple communication channels	A total of 3,200 anti-AIDS clubs were established. The rest of the results were in the form of lessons learned.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Promotion of Youth Responsibility[39]	Africa: Zimbabwe	• Six-month multi-media **E-E** and general mass media campaign, that included a radio program, community theater, telephone hotline, and peer education events. • Part of the intervention included training health care providers and designating 26 clinics as "youth friendly". • Additional activities were also designed to reach a secondary audience of family, friends and teachers, and to prompt discussion of reproductive health issues.	☑ Use of theory: Steps to Behavior Change Framework ☑ Involvement of youth ☑ Involvement of other stakeholders ☑ Use of multiple mass media and/or multiple communication channels	**Effects:** • The use of multiple channels of communication contributed to the campaign's impact; the more materials and activities young people were exposed to, the more actions they took in response. ◦ Combining mass media and community events may have been particularly effective. ◦ One of the campaign's greatest accomplishments was building support, in the community and within the health care system, for reproductive health interventions directed at young people. ◦ Among the results of this strategy were unexpectedly high levels of parent-child discussion about sensitive reproductive health issues and increases in the number of young clients seeking reproductive health services at youth-friendly clinics.
Soul City[47]	Africa: South Africa	• School-based component (life skills program) of a multi-year **E-E** fictional narrative drama.	☑ Use of theory: Soul City Theory of Social and Behavioral Change ☑ Inclusion of contextual factors ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • Urban learners reported more exposure to the TV programs whereas the rural learners reported more exposure to radio programs. • More than 1/3 of students reported being exposed more than 10 times to four different Soul City sources. **Effects:** • Exposure to the life skills education component of the intervention was associated with increased puberty knowledge, HIV knowledge, HIV risk perception, and condom use at last sex.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Staying Alive[14; 20; 48; 49]	Global (the evaluations cover Asia, Latin America, and Africa): Nepal, Senegal, and Brazil	• Five-month component of a multi-year MTV multi-media **E-E** intervention incorporating a traditional **PSA** and public health campaign with **E-E** in television and the Internet. • Participating countries could modify the campaign to fit within their national context, including the cultural appropriateness of materials and access to MTV networks.	☑ Use of theory: Social Diffusion Model; Uses and Gratifications Theory; Media Practice Model ☑ Inclusion of contextual factors ☑ Involvement of other stakeholders ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • In Nepal approximately 12% of youth were exposed. • In Brazil approximately 23% of youth were exposed. • In Senegal approximately 82% of youth were exposed. **Effects:** • In all three sites, exposure to the campaign was associated with significantly more communication with others about topic of HIV/AIDS compared to those who were not exposed to the campaign. ◦ Friends were the most prevalent type of people the youth talked to about the campaign. • An increase in positive beliefs about HIV prevention behaviors was also found in all three sites. See page 44 for details.
Tanzania Condom Social Marketing Program[59]	Africa: Tanzania	• Multi-year **social marketing** campaign that included radio, TV, and print. • Mobile video units were also used to screen videos on behavior change and condoms. • Approximately 3,100 community based agents were trained to provide information about AIDS and manage condom sales.	☑ Inclusion of contextual factors ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • Newspapers and radio were the most often recalled methods. **Other findings:** • Condom use increased over time. • Recall of Salama ads increased over time, reaching 100% by the last quarter of 1996.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Tsa Banana[18]	Africa: Botswana	• Eight-month urban **social marketing** campaign with some elements of **E-E**, which included radio programs as well as peer educators.	☑ Use of theory: Health Belief Model ☑ Inclusion of contextual factors ☑ Involvement of youth ☑ Involvement of other stakeholders ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • Overall, 71% of males and 68% of females reporting exposure to the intervention. Exposure was high because the peer educators were able to reach a large portion of youth, due to the intervention town's small population. **Effects:** Among females: • Over time, comparing the intervention and comparison groups, there was no effect regarding perceived risk of pregnancy. ◦ There was, however, a net positive impact for the following: - belief that abstinence protects against AIDS; - belief that condoms protect against pregnancy; - belief that condoms protect against AIDS; - perceived risk that sexual activity carries the risk of pregnancy; and - reporting ever having done anything to prevent pregnancy. Among males: • Over time, comparing the intervention and comparison groups, there was a net effect (reduction) for having two or more casual partners in last year. There was, however, no net effect for the following: - risk perceptions; - benefits or barriers to preventive behavior; or - communication about sexual matters.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
YOUTH-SPECIFIC INTERVENTIONS				
Tsha Tsha[9]	Africa: South Africa	• **E-E** fictional narrative television drama	☑ Use of theory: No specific theory, but included theoretical concepts such as self-efficacy and identification ☑ Inclusion of contextual factors ☑ Involvement of youth	**Exposure:** • Tsha Tsha had a 50% share of the audience during the first 26 episodes. • Exposure to Tsha Tsha had a positive, direct impact on AIDS attitudes. **Effects:** • Identification with both female characters was related to the audience talking about more topics related to AIDS. • Females cared about characters in different ways than males. Although females cared most about female characters and males cared most about male characters, males tended to care less for any character than did females. • Talking about AIDS topics raised in the drama affected attitudes regarding AIDS.

www.youthhood.com.cn[17]	Asia: China	• Ten-month intervention based in an urban setting for high school and university students.
		
		• The intervention was a website with sexual health information.
			☑ Involvement of youth	**Effects:**
				• Only 53% of the intervention group said that the website raised their attention to reproductive health issues.
				• Compared to the comparison group, the intervention group experienced the following:
				  ◦ Increased knowledge.
				  ◦ No difference in behavior.
				  ◦ More positive attitudes regarding providing contraception to single people (this change was found only among high school students in the study).

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
GENERAL POPULATION INTERVENTIONS				
Contraception, Choose the Best Method for You[41]	Europe: France	• Three-week **PSA campaign** with elements of **E-E** using TV, radio, print, as well as brochures distributed in health centers and schools.	☑ Use of theory: Some information about social norms and identification, but no specific theory	**Effects:** • Overall, young women identified with the film about the young woman. • Although relatively few people talked about the films with others, 15-17 year-olds were more likely to talk about the films to others. **Among those age 15 to 17:** • Approximately 46% talked about the film to others. • Identification with the film was associated with finding the films convincing as well as being encouraged to seek more information.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
GENERAL POPULATION INTERVENTIONS				
Delivery of Improved Services for Health (DISH)[60]	Africa: Uganda	• Multi-year, primarily rural, project to increase service use and change behaviors related to reproductive health and sexual health. • Condom use promoted for both STI and pregnancy prevention. • The intervention included a **PSA** mass media campaign using radio, TV, and print. • Specific HIV prevention activities encouraged non-abstaining youth to use condoms. • Other components included a **social marketing** campaign to brand health facilities that offer integrated reproductive health services, social marketing of Protector brand condoms, informational radio programs, and community education activities.	☑ Inclusion of contextual factors ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • Radio was by far the most often reported media of exposure for both males and females. **Effects:** • Among females: ◦ The intervention had a dose-response effect with the following findings: - Compared to females with no exposure, females exposed to one type or multiple types of messages were 2.83 and 6.9 times more likely, respectively, to report using a condom at last sex, after controlling for other variables including age. - Exposure to multiple types of messages was associated with condom knowledge and with ever using a condom for STI prevention. - As the number of media channels of exposure increased, so too did condom knowledge and condom use. - Exposure to the weekly radio program was associated effects on knowledge and ever using a condom to avoid STIs. • Among males: ◦ Males generally reported higher levels of exposure to messages through mass media. The intervention had a dose-response effect with the following findings: - Compared to males without exposure to the radio program, exposed males were 3.33 times more likely to have used a condom at last sex. - Compared to males without exposure to Protector condom ads, exposed males were 1.64 times more likely to report condom use at last sex. - Exposure to the weekly radio program was associated with knowledge and ever using a condom to avoid STIs.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
GENERAL POPULATION INTERVENTIONS				
So A Vida Ofrece Flores[42]	Africa: Mozambique	• Multi-year, primarily urban, **social marketing** condom campaign that used radio, TV, and print. • The available research, however, evaluates the **E-E** component of the intervention, which included radio campaign spots. • The overall intervention also incorporated interpersonal communication (i.e., peer education, street theater) and sales promotions.	☑ Use of theory: Unspecified, but based on a two-step model involving inter-personal communication followed by behavior change ☑ Involvement of youth ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • More than half of young women and men respondents reported exposure to two or more communication activities. • Recall of one or more specific messages of the campaign was reported by 41.3% of young male and 38.3% of young female respondents. **Effects:** • For all respondents, recall of detailed radio messages had a strong effect on intent to change behavior as well as attempt and success in carrying out behavior change. • Respondents exposed to two or more communication activities reported higher intent, attempt, and success in behavior change as compared with those exposed to only one or fewer interventions.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
GENERAL POPULATION INTERVENTIONS				
Tanzanian Family Planning Communication Project[43]	Africa: Tanzania	• Multi-year series of multiple urban interventions were carried out, consisting primarily of **E-E** using radio, TV, and print. • Also included the Green Star logo campaign to identify and promote national family planning services.	☑ Inclusion of contextual factors ☑ Use of multiple mass media and/or multiple communication channels	**Exposure:** • Approximately 55% of respondents reported exposure to messages about family planning in any mass media source. (Note that there were other interventions going on simultaneously to the Tanzanian Family Planning Communication Project.) • Reported exposure to specific interventions of the Tanzanian Family Planning Communication Project was approximately 23% for the radio serial ("Zinduka!") and approximately 16% for the Green Star logo campaign. **Effects:** • Among females: ◦ Women ages 20 to 49 had greater odds to use any method versus no method, to use a modern method versus other/no method, or to use a traditional method versus other/no method, compared to women ages 15 to 19. ◦ The greater number of media sources to which women were exposed, the more likely they were to use family planning, after controlling for factors such as age, marital status, and education. ◦ Women who reported exposure to the project's radio serial program were more likely to report having discussed family planning with their spouse, compared to unexposed women, controlling for other factors such as age, education, and marital status. ◦ After controlling for other factors such as age, education, and marital status, women who reported exposure to either the project's radio serial program or the project's logo campaign were more likely compared to those who were not exposed to the campaign to report the following: - having visited a family planning service site; and - currently using family planning.

INTERVENTION	REGION: COUNTRY	SUMMARY OF INTERVENTION	APPLICATION OF INTERVENTION CHARACTERISTICS	EVALUATION FINDINGS
GENERAL POPULATION INTERVENTIONS				
The Bold and the Beautiful[44]	Africa: Botswana	• Multi-year fictional narrative television drama incorporating **E-E** storyline	☑ Use of theory: Social Cognitive Theory	**Effects:** Compared with non-viewers of the show, viewers indicated significantly lower levels of HIV stigma, after controlling for other factors, such as age.
Trust condom advertising[61]	Africa: Kenya	• Twelve-month **social marketing** campaign, including radio and TV spots, to brand the "Trust" condoms.	☑ Use of theory: Health Belief Model ☑ Inclusion of contextual factors ☑ Use of multiple mass media and/or multiple communication channels	**Effects:** • Findings by exposure: ◦ After controlling for other variables including age, those with some or high exposure to branded messages were more likely than those with no exposure to report the following: - higher self-efficacy; - positive beliefs about condoms; - less embarrassment about purchasing condoms; - the belief that AIDS is a serious problem in their community; and - the belief that there is no cure for AIDS. • Findings by age: ◦ Compared to older respondents (ages 25 to 39), younger respondents (ages 15 to 24) were: - 1.25 times more likely to recall branded TV advertising for Trust condoms; - equally likely to have watched TV in the previous week; - equally likely to recall branded radio ads for Trust condoms; - equally likely to hold similar condom beliefs; and - 1.32 times less likely to perceive that AIDS is a serious problem in their community, after controlling for other variables including exposure. • Findings by gender: ◦ Compared to females, males were: - 2.46 times more likely to have listened to the radio in the previous week; - 2.52 times more likely to recall radio advertising for Trust condoms; - 1.88 times more likely to have watched TV in the previous week; and - 2.10 times more likely to recall TV advertising for Trust condoms.

3.0 USING MEDIA TO ADDRESS ADOLESCENT SEXUAL HEALTH: LESSONS LEARNED AT HOME

SARAH KELLER, PH.D.

INTRODUCTION

While the international arena has provided a fruitful landscape of health campaigns and evaluations, less data is available regarding the effectiveness of reproductive health campaigns at home. The reasons for this are plentiful and stem in part from a media environment that is more completely privately owned in the United States, and less receptive to externally mandated educational programming than in many developing nations where TV and radio channels are often government owned. Instead, private media markets have been more receptive to "product placement" types of health messages, inserted into existing programming, and a wider breadth of new technology interventions. The attempts to evaluate what are known as "embedded messages" and new technology approaches have so far proven a bit more difficult to do, and are potentially less well funded than interventions associated with large-scale donor programs overseas.

Nevertheless, a growing body of evidence shows that health communication campaigns can be effective at changing health attitudes and behavior in the United States and it contributes to educators' confidence that mass media can effectively be used to promote healthy sexual behaviors among adolescents.[1] A review of previous campaigns reveals lessons for how to design successful campaigns as well as new approaches that look promising but need further evaluation.[2; 3]

This chapter reviews mass media interventions designed to promote sexual health in the United States. Interventions were included that used five types of media strategies: (1) **public service announcements** (PSAs)[†]; (2) **entertainment-education** (E-E); (3) **social marketing**; (4) **media advocacy**; and (5) **new media technologies**. While new media technologies, such as Internet and cell phones, provide alternate media channels to TV, radio and print, they also involve new and interactive ways of communicating with audiences and involve new strategies for health communication that are unfolding as we write this report. Because of their interactive nature and increasingly ubiquitous use by adolescents and young adults, harnessing the power of new media technologies also is being seen as a valuable strategy for engaging youth in sexual health discussions and fostering positive decision-making skills.

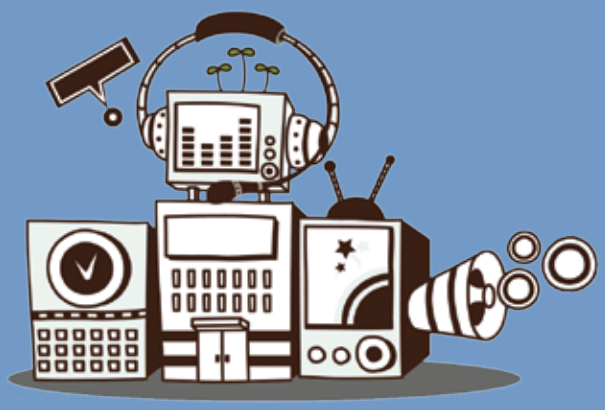
[†] Bold, underlined terms are defined in the Glossary (see page 126).

METHODS

To identify relevant interventions, online academic journal databases were searched for studies conducted to evaluate the impact of mass media interventions to promote sexual health among U.S. adolescents. Most identified studies described interventions conducted in the past several decades (although a time period was not explicitly specified). Interventions that were classroom-based or solely interpersonal in nature were also excluded, except in cases where classrooms (or small groups) were used to experimentally test media materials that could later be disseminated on a mass basis. Databases searched included Academic Search Premiere, the General Health Reference Center, Medline, PsychInfo, Lexus Nexus, and Expanded Academic Index. Keywords used included any combination of the following: "sexual risk," "sexuality education," "sexual health," "safe sex," "youth health," and "media," "education," "communication," "messages," "health communication," and "mass media," "social marketing," "evaluation," "campaigns," and "media advocacy and health." Some of the journals that included the most relevant articles were: *Journal of Health Communication, Journal of Adolescent Health, Health Education & Behavior, AIDS Education and Prevention*, and the *American Journal of Public Health*. Websites of organizations known to be conducting work on adolescents' sexual health also were searched for unpublished documents (**www.cdc.gov**, **www.kff.org**, **www.advocatesforyouth.org**, **www.evolve.com**, **www.mtv.com**, **www.jhuccp.org**, **www.usc.edu**).

To be included in the review, the interventions had to be focused on reducing sexual risk among young people (ages 12-24); be located in the United States; report some evaluation results; and employ either mass media news or entertainment content (e.g., television, radio, magazines, outdoor) or new media (e.g., Internet, cell phones).

Although the focus of this chapter is on adolescents and young adults, some interventions designed for a national adult and youth audiences were included so long as they were evaluated with adolescents and young adults. In addition, one major national campaign from a non-sexual health area—the **truth**® campaign for tobacco control—as included because of its exemplary design and evidence of success with adolescents. Finally, some of the innovative interventions using new media technologies have not yet reported conclusive evaluation data but were included to provide an idea of some novel approaches on the horizon.



Echoing the lessons learned from the previous chapter, this review calls for designing campaigns that are theoretically informed, involve audiences in campaign design, focus on high-risk audiences, promote new behaviors rather than cessation of old behaviors, achieve high levels of message exposure, use new technologies, use media advocacy (to influence mainstream news coverage and policy-makers), use sound evaluation methods, and plan for sustainability.

MASS MEDIA AS SOURCES OF SEXUAL HEALTH INFORMATION

The mass media (e.g., TV, magazines, movies, Internet) can be important sources of sexual health information. In one national survey conducted in 1997, three-quarters of adult men and women said they considered magazines an important source of information on such topics as birth control, sexually transmitted infections (STIs), and HIV/AIDS. Magazines appear to be an especially important information source for teens. Of the seven in ten teenage girls who reported reading magazines regularly, half said they use magazines to find information on sex, birth control, or ways to prevent STIs. Two-thirds said this is information they don't get from other sources.[4; 5] More recent studies in the United Kingdom show that teenagers today still use magazines for sexual health information,[6] although it is likely that some of that information seeking is shifting to the Internet.[7]

Not all of what adolescents can get from the media about sex can be considered sexually healthy content, however. Content analyses have found ample sexual information in mainstream teen and women's magazines—but little of it portrays sex in a way that is accurate or complete enough to promote sexual health.[8-12] The general lack of talk about or portrayals of concerns, cautions, contraception, and consequences of sex in the media may make it more likely that young media consumers will learn risky rather than safe sexual behavior from the media. Teenagers who frequently view portrayals of glamorous, casual, risk-free sex among sexually objectified women and irresponsible men may gradually become *cultivated* to adopt similar beliefs about sex in the real world.[5] Such a potentially unhealthy sexual media environment makes the need for alternative media messages about sexually healthy behavior all the more important.

SEXUAL HEALTH MASS MEDIA HEALTH INTERVENTIONS IN THE UNITED STATES

This literature review identified 20 interventions from the United States that used the media to address adolescents' sexual and reproductive health issues. Table 3-1 describes the interventions and summarizes the relevant findings. Of the interventions, one used media advocacy, three used public service announcements (PSAs), four used entertainment-education (E-E), and 12 used new media technologies.

PUBLIC SERVICE ANNOUNCEMENT CAMPAIGNS

PSAs traditionally have been used in public health mass media campaigns for decades, both domestically and abroad. Evaluating their impact has proven difficult, in part because of the multiplicity of factors affecting public health behavior in a large social context. (The same can be said for evaluating all mass media interventions). These four examples represent some of the best documented PSA efforts targeting teen sexual health, with one example drawn from a youth anti-smoking campaign.

Two-City Safer Sex Campaign

One of the most impressive trials of a safe sex PSA campaign was conducted in Lexington, KY with Knoxville, TN as a comparison city. The "Two-City Safer Sex Campaign" used 10 televised PSAs, developed through intensive formative research with youth (40 sets of focus groups), to increase safer sexual behavior among young adults who were at risk because of high levels of sensation-seeking and impulsive decision-making. A composite risk variable (called Sensation-Seeking/Impulsive Decision-Making or SSIDM) was used to segment the audience. The SSIDM combined two scales—sensation-seeking, e.g., "I like to do frightening things," and impulsivity, e.g., "I do the first thing that comes into my mind." Messages were tailored to appeal to young people who exhibited high degrees of SSIDM, based on advice from Palmgreen and Donohew,[13] who suggest that the effectiveness of health messages will increase if they target high sensation-seekers and impulsive decision-makers with fast-paced messages that feature drama, intensity, emotion, and novelty.

Outcome analyses indicated a significant 5-month increase in condom-use self-efficacy, behavioral intentions, and condom use among the target group in the campaign city. The comparison city showed no increases. An overall 13 percent increase in safer sex acts was estimated as a result of the campaign.[14]

It's Your Sex Life

Another promising effort resulted from the collaboration of MTV and the Kaiser Family Foundation called "It's Your Sexlife.org." The campaign, which continues today as "Think MTV," includes special programming on MTV, public service messages, and a comprehensive sexual health website for youth (**www.think.mtv.com**). A 2003 survey of MTV viewers (ages 16 to 24) found that of those who had seen the campaign, three-fourths said they were more likely to take a relationship seriously and three-fourths were more likely to use a condom if having sex. A Kaiser Family Foundation report about the campaign showed 822,000 calls were completed to a hotline through MTV. Of these, 336,000 calls were transferred to the Centers for Disease Control and Prevention (CDC) or Planned Parenthood Federation of America, for more information about HIV/AIDS and sexual health. Participants in a 2003 survey to evaluate the campaign reported that after seeing the campaign ads they were more likely to use condoms (73 percent), wait to have sex (60 percent), talk with a partner about safe sex (49 percent), or talk with a parent about sexual risks (28 percent).[18]

Talk to Your Kids About Sex: Everyone Else Is

"Talk to your kids about sex: Everyone else is," was a PSA campaign conducted in 32 counties in North Carolina. The campaign, which used radio, TV, and billboard ads, was designed to promote parent-child communication. Paid TV PSAs were aired in 22 counties, radio PSAs were aired in 21 counties, and billboards were displayed in six counties for nine months. The counties varied from no exposure to exposure to all three types of media. To assess the impact of the campaign, a sample of 1,132 parents of adolescents living in the 32 counties completed a post-exposure telephone survey. A positive association was found between campaign exposure and self-reported frequency of talking to children about STIs, teen pregnancy, and contraception. Exposure to each component of the mass media campaign was associated with parents recently having talked to their adolescent children about sex and with intentions to talk to their children in the next month.[19]

truth®

Some of the most impressive behavior change data in association with a domestic mass media campaign lie in the tobacco control arena. In early 2000, the American Legacy Foundation launched the national **truth®** campaign, the first national anti-smoking campaign to discourage tobacco use among youths. Researchers used data from the Monitoring the Future survey, an ongoing, federally-funded study of the behaviors, attitudes,

and values of American secondary school students, college students, and young adults, in a pre/post quasi-experimental design to relate trends in youth smoking prevalence to varied doses of the **truth®** campaign in a national sample of approximately 50,000 students in grades 8, 10, and 12, surveyed each spring from 1997 through 2002. They found that the campaign accounted for a significant portion of the decline in youth smoking prevalence. Smoking prevalence among all students surveyed declined from 25.3 percent to 18.0 percent between 1999 and 2002, and the campaign apparently accounted for approximately 22 percent of this decline.[20]

The Massachusetts Tobacco Control Program also conducted a statewide version of the **truth®** campaign. Scholars at two Boston universities demonstrated that exposure to Massachusetts **truth®** TV ads was associated with reductions in progression to smoking among young teens. Younger adolescents (ages 12 to 13 at baseline) who reported exposure to TV antismoking ads were half as likely to progress to habitual smoking by the time they reached ages 17 to 18 as compared to teenagers who did not see the campaign.[21; 22]

Both the national and statewide **truth®** anti-smoking campaigns succeeded by using social marketing tactics that are often summarized as the four Ps (product, place, price, and promotion).[17] In the truth® campaigns, the *product*/action was "to be cool" by attacking adults who want to manipulate teens to smoke. The campaign reduced the *price* of the behavior (attacking adults) by selecting adults everyone agreed had been manipulative, such as tobacco industry insiders. They created *places* for adolescents with bus caravans and the founding of local "**truth®** chapters." The campaign also used *promotion* that went beyond traditional PSAs by having adolescents directly confront the tobacco industry and then publicizing this teen "terrorism" in the popular media. The campaign also conducted surveys of its target audience, which identified important micro-market segments (e.g., south Florida Hispanics) where impacts were lagging, and where new ideas were needed.[20]

Vallone[23] suggested the *truth®* campaign was successful because: (1) it was positioned as a brand to compete with tobacco brands that teens around the world use for self-expression; (2) it directed teens to rebel against the tobacco industry; (3) it exposed the lies of the industry; (4) messages were never preachy; (5) smokers were never condemned; and (6) tactics appealed to sensation-seeking teens.

ENTERTAINMENT-EDUCATION

The entertainment-education (E-E) strategy involves incorporating an educational message into popular entertainment content to raise awareness, increase knowledge, create favorable attitudes, and ultimately motivate people to take socially responsible action in their own lives. Despite the popularity of new media technologies, television remains the primary medium for E-E in the United States. Over the years, the E-E strategy has been applied in a variety of ways to highlight a number of social and health issues in entertainment programming, including substance abuse, immunization, teenage pregnancy, HIV/AIDS, cancer, and other diseases.[24]

Characters in films and television, whom loom larger than life for most viewers, are believed by the organizers of E-E efforts to be particularly effective for spreading health messages. To be most effective, however, audiences need to be able to identify with and relate to the characters on the screen. When viewers see a character they relate to who is dealing with a troubling issue or suffering pain, they remember it and talk to others about it.[25] Social psychologists have established that people can vicariously learn healthy (or unhealthy) social behavior through behavior modeling in mass media.[24; 26-31] A few studies provide evidence that sexual health messages embedded in mainstream TV shows in the United States have been effective (e.g., emergency contraception[32]; knowledge and use of an AIDS hotline[33]).

The insertion of sexually responsible messages in entertainment media is a potentially powerful way of affecting sexual behavior because the "selling" of a particular behavior is not as obvious as it may be in a PSA and, thus, audiences may not be as likely

CASE STUDY:

A TELEVISED TWO-CITY SAFER SEX MASS MEDIA CAMPAIGN TARGETING HIGH-SENSATION-SEEKING AND IMPULSIVE-DECISION-MAKING YOUNG ADULTS

OVERVIEW: A televised PSA campaign aimed at increasing safe sex beliefs and behaviors in young adults (ages 18 to 23) was implemented in Lexington, KY.[14] The campaign was evaluated using a comparison city—Knoxville, TN. The goal of the PSA campaign was to increase condom use among young adults exposed to the campaign. Researchers used audience-segmentation and message-tailoring techniques to create and tailor messages that were persuasive with sensation seekers and impulsive decision makers.

PSA messages were developed through formative research with three waves of focus groups drawn from the target audience. The campaign developed some original scripts, and borrowed others from the Kaiser Family Foundation. Two theoretical frameworks were used to guide the development of the campaign (for more information on Health Behavior Theories please see page 124). The first theoretical framework was used to divide the target audience into segments for analysis based on the participants' sensation-seeking and impulsive decision-making behavior, based on research that showed these two personality traits were most highly correlated with sexual-risk taking.[15] The second framework consisted of theoretical concepts drawn from Theory of Reasoned Action[16] and Social Cognitive Theory,[17] based on research showing that social norms, self-efficacy and preparatory behaviors (e.g., carrying condoms and communicating about condom use) were most highly correlated with heterosexual safe sex behavior.

The 10 resulting safer sex PSAs aired from January through April 2003 in Lexington, KY, during programs known to be popular with the target audience, using a combination of paid and donated time (with a 1:1 match of donated to paid airtime negotiated with the stations).

In order to evaluate the impact of the PSA campaign on attitudes and behaviors, a 21-month controlled time-series evaluation design was used. Knoxville, TN was selected as the comparison city because it is demographically similar to Lexington, KY. No PSAs were aired in Knoxville. Starting eight months before the PSAs were shown self-administered interviews were conducted with independent cross-sectional samples of 100 young adults in each community. The surveys continued during the three months of the campaign and for 10 months after the campaign on a monthly basis. Participants were recruited through random-digit-dialing.

FINDINGS: The results were analyzed separately for the target groups. Participants who reported high sensation-seeking and impulsive decision making behavior were considered to be high-risk young adults while those who reported low sensation-seeking and impulsive decision making behavior were considered to be low- risk young adults. Overall, 85 percent to 96 percent of respondents in Lexington recalled seeing at least one PSA, and there was an average of 22 exposures per respondent. The PSA campaign had no significant impact on low-risk young adults. Among high-risk young adults (the target audience), the campaign was found to increase condom-use beliefs and behaviors. Specifically, high-risk youth in Lexington were found to have increased condom use during the campaign and in the three months following the campaign, while there was no such change in the comparison city. They were also found to have increased condom self-efficacy and intentions to use condoms.

Analyses to determine the effect size of the campaign suggests that, on average, condom use among the target audience increased 13 percent. This would account for 181,224 fewer unprotected intercourse occasions among the target group than would have taken place without such a campaign. However, the evaluation also indicates, that while the effects of the campaign were very positive, they were also short lived. Thus a continuing campaign presence might be necessary to reinforce and sustain the behavior changes that occurred.

to resist the message. These messages also are more likely to reach and attract attention, compared to PSAs that are rarely shown at strategic times and are not aired frequently enough. Embedded message strategies may also be more practical than overt persuasive attempts (e.g., PSAs) in countries, such as the United States, that have sophisticated media markets where viewers have a variety of media options and may change channels or fast forward through advertisements. Dramatic or comedic formats also provide time for developing more complex messages than is possible in 10- or 30-second PSAs, although in the United States sustained storylines about sexual health topics have been rare.

The Media Project

The Media Project, an initiative of Advocates for Youth, provides entertainment-industry professionals with the most up-to-date, socially relevant, and accurate information about sexual health issues. The Media Project, located in the heart of Hollywood, has collaborated with such popular television shows as *ER, Girlfriends, Grey's Anatomy, the George Lopez Show, Judging Amy*, and *Law & Order: SVU*, among many others. A similar effort, *The Latino Media Initiative*, was created in 2001 to provide information, resources, referral, storyline ideas, and script review for writers and producers of Spanish language television. Staff work with writers and directors of television shows produced in the United States, Venezuela, Chile, Mexico, Colombia, and Peru to bring accurate sexual health information and responsible sexual health images to Spanish-speaking television audiences in Latin America and the United States.

The Media Project uses several tactics to achieve its objective of inserting sexual health information into mainstream programming and films:

- A telephone helpline provides prompt assistance in researching sexual and reproductive health issues for television and film writers, producers, and directors.
- Tailored meetings with producers, writers and network executives are conducted to systematically identify television shows that may benefit from Media Project assistance.
- Informational briefings are conducted to present entertainment industry professionals with in-depth information on "hot" topics in teen sexual health. The briefings give Hollywood's writers, producers, and directors opportunities to speak directly with young people and other experts regarding adolescent sexual health.
- In partnership with the UCLA School of Public Health, the Project established the Entertainment Resource Professionals Association (**www.entertainmentresource.org**), which fosters online knowledge sharing and increases the level of expertise among all members who promote health and social messages to writers, executives, producers, and directors.
- It conducts the SHINE (Sexual Health IN Entertainment) Awards to honor those in the entertainment industry who do an exemplary job of incorporating accurate and honest portrayals of sexuality into their programming.

ER

On the popular TV program *ER*, the Media Project helped insert a storyline about a girl who was date raped and treated with emergency contraception. Although the scene aired for less than a minute, viewers' knowledge of emergency contraception increased 17 percent immediately after viewing. Between March 1997 and April 2000, the Kaiser Family Foundation conducted 10 national random-sample telephone surveys of more than 3,500 regular *ER* viewers aged 18 and older (300 to 500 participants per survey). Many *ER* viewers demonstrated significantly increased awareness about specific health issues that were addressed on the show. After the episode on emergency contraception, awareness of the pill rose from 50 percent to 67 percent. Among those who had heard of emergency contraception, one in five (20 percent) said they had learned about it on *ER*.[32; 34] After an episode about human papilloma virus (HPV) aired on *ER*, the proportion of viewers who had heard of HPV nearly doubled (from 24 percent to 47 percent), and the proportion who could correctly define HPV tripled

(from 9 percent to 28 percent).[34] In most cases, however, viewers' awareness of the sexual health issues decreased over time. In the case of emergency contraception, a repeat survey conducted 10 weeks later showed that awareness had fallen back to 50 percent. These results underscore the advice that health-related messages must be repeated over time for viewers to retain the information.[34]

The Bold and the Beautiful

With the help of the CDC, the executive producer of the daytime drama *The Bold and the Beautiful* developed an HIV/AIDS storyline, and CBS aired PSAs following two different episodes with key HIV plot scripts. The first PSA generated a total of 1,426 calls to the CDC's national HIV/AIDS hotline during the soap opera time slot, compared to 88 calls the previous day and 108 calls the day following the episode. Ten days later, when the PSA was shown again, the call volume spiked even higher to 1,840 calls originating during and shortly after the episode (in comparison to 94 calls the day before and 234 calls the day after the HIV episode).[33]

Friends

Sometimes cooperating with Hollywood screenwriters and producers can compromise a health message, however. An episode about condom effectiveness on the sitcom *Friends*, for example, left some viewers with the impression that condoms were ineffective. As part of the season's main story line, Rachel, a regular character on the show, experienced an unplanned pregnancy as a result of a single night of sex with Ross, another main character and her former boyfriend. In the episode, Rachel tells Ross about the pregnancy for the first time. Ross responds with disbelief and exclaims "but we used a condom!" The statement that "condoms are only 97 percent effective" is said in this scene and a subsequent one. Thus, the possibility of condom failure and the resulting consequence of pregnancy were unintentionally communicated to a large adolescent audience in a vivid way.

A national sample of 506 adolescents ages 12 to 17 who had been regular viewers of *Friends* were surveyed by telephone to assess the effects of the episode on condom knowledge and beliefs. The post-test survey found that, among teens who had viewed the episode, two-thirds remembered that the specific storyline depicted an unplanned pregnancy caused by condom failure.

Nevertheless, many viewers received the intended message that condoms are effective. Four out of 10 teens who reported watching the *Friends* episode watched it with a parent or adult, and 10 percent of them talked with an adult about the effectiveness of condoms as a result of the episode. Almost half who discussed the episode with an adult recalled the characters describing condoms as being 95 percent or more effective. Compared with teens who watched alone or with another youth, teens who watched with a parent or adult were twice as likely to say they learned something new about condoms from the episode (38 percent versus 15 percent), as well as to recall that condoms were said to be between 95 percent and 100 percent effective (40 percent versus 20 percent). A follow-up survey 6 months later found that 30 percent of the teens who watched the episode about condom efficacy rated condoms as 95 percent to 100 percent effective compared to only 18 percent of the teens who did not view the episode.[35]

The Know HIV/AIDS Campaign

Several efforts have combined PSA mass media campaigns with embedded storylines in existing programming. U.S. media corporation Viacom and the Kaiser Family Foundation, for example, launched one of the most ambitious HIV/AIDS media campaigns ever conducted in this country, in which they used many of the communication tools honed by Madison Avenue and Hollywood to fight the epidemic. The "KNOW HIV/AIDS Campaign" produced PSAs, print and outdoor advertising worth $120 million. In 2003, Viacom issued a directive to the producers of its television shows to include storylines in their popular dramas

and comedies that would raise AIDS awareness and encourage prevention, counseling, and testing. An in-house report showed that one component of the campaign, called "Rap It Up," on Black Entertainment Television (BET) and other networks targeting African Americans, influenced self-reported awareness and intentions to practice safe sex among the target audience of youth ages 18 to 24.[36]

MEDIA ADVOCACY

Even if, or perhaps especially because, resources for media interventions are limited, media advocacy should be used to maximize campaign effectiveness. Putting sexual health issues on media news agendas—and keeping them there—is an important tool for tackling youth sexual health behavior. Media advocacy, or **earned media**, is often called "uncontrolled publicity" by public relations professionals because news media coverage about an organization has the advantages of being free, reaching a large audience, and enjoying third party credibility. At the same time, it is less controllable than materials written or produced by a youth-serving sponsoring agency. News coverage of health issues can be an important factor in setting the agenda for policy change and can influence individual decisions, as well as community-wide decisions. This broader context for decision-making is an important component of multi-level interventions that are grounded in a socio-ecological model of behavior change.[37-39] Media advocacy also may be an important way to address policy makers who make critical decisions affecting young people's access to sexual health information and services.

Media advocacy can be conducted in a variety of ways. As volume appears to be the driving factor, media advocacy may be best targeted toward generating events and highlighting issues likely to increase and sustain news attention. One example from the tobacco-control domain helps illustrate the potential power of getting the health topic covered in the news media. An extensive content analysis of news coverage of tobacco conducted conjointly with a survey of adolescent attitudes toward smoking showed that coverage increased perceived risk and lowered self-reported recent smoking behavior among adolescents.[40] The content analysis examined 8,390 newspaper articles on tobacco issues published by 386 daily newspapers between 2001 and 2003 in Monitoring the Future survey communities. Associations between news and youth outcomes were assessed for 98,747 youth participating in the nationally representative school-based annual surveys. Each 10-article increase in newspaper coverage of tobacco-related issues over the five month period was associated with a four percent increase in odds of perceiving great harm from smoking (Odds Ratio [OR] = 1.04, $p<0.01$), a four percent increase in disapproving of smoking (Odds Ratio [OR] = 1.04, $p<0.05$), a six percent decrease in odds of perceiving most or all friends smoke (0.94, $p<0.01$), and a seven percent decrease in self-reported smoking in the past 30 days (Odds Ratio [OR] = 0.93, $p<0.001$). No consistent association was found between the content or prevalence of coverage and youth smoking outcomes.[40]

News stories created in partnership with local TV or radio stations also can be used to highlight embedded messages in entertainment programming. The Kaiser Family Foundation and the Johns Hopkins University School of Hygiene and Public Health, in collaboration with the NBC News Channel and the prime time drama *ER* developed a new model that linked health messages on *ER* with 90-second news segments broadcast after the episode in local newscasts. From 1997 to 2001, "Following *ER*" featured interviews with medical experts and real people who had experienced the health issue addressed in the show. Each segment also offered access to additional information through a toll-free telephone number or online resources displayed on-screen. Stations at 37 of the top 40 media markets in the country aired the segments as a tie-in to *ER* during their 11 p.m. newscasts on Thursday nights, immediately following *ER*.[41]

NEW MEDIA TECHNOLOGIES

New media technologies (also called digital media) are expanding perhaps more rapidly than public health advocates can figure out how to use them, but one thing is clear: young audiences are frequent users, and often use them for sexual health information. In one study of sex and age differences in the use of Internet health information, for example, 41 percent of the young respondents said they had changed their behavior because of health information they found online, and almost half had contacted a health care provider as a result.[7] Other new media technologies include text messaging on cell phones, MP3 players, blogs or chat rooms on web sites, and Internet social networking sites such as Facebook or MySpace, where many users can simultaneously create and communicate on the same web pages.

Unfortunately, the Internet is also a source of sexual risk. As Michael Rich outlines in Chapter 1, the Internet provides young people unprecedented access to sexually explicit images that rarely include depictions of safer sexual behaviors, and sexual predators have greater access to young people than they ever have before. Studies also have shown that sex partners who meet online engage in higher-risk sexual behaviors, and are therefore at higher risk of acquiring STIs, than do partners who meet through conventional means.[42; 43] A majority of men questioned about barebacking (having unprotected anal sex), for example, cited the Internet as a major factor in the rise of this sexual activity because men are able to meet partners online and discuss sexual preferences in a relatively anonymous fashion[44]. Concern is growing, particularly among parents, that the rapid increase in Internet use may expose adolescents to risky sexual material.

Despite the potential risks, the Internet and other new media technologies provide valuable opportunities to engage audiences in online sexual health education.[45; 46] The Internet creates unique educational opportunities for people to obtain sexual health information in a way never available before and also provides an open forum for comparing and sharing experiences related to sex and sexuality. One online survey of more than 4,000 men of all ages who have sex with men found that most (75 percent) said that health workers should be allowed in online chats, 78 percent said they would click on a banner to find out about sexual health, and 81 percent said they would find out what a health worker had to say if they met one in a chat.[43]

Only a handful of small-scale new media interventions have been evaluated, however. These evaluations have focused on interventions that included computer-assisted instruction (CAI) in classrooms and stand-alone videos. Although the success of these interventions was assessed only in small settings, the health content could be widely disseminated through DVDs or websites.

Computer-Assisted Instruction Programs

Randomized control trials showed increased HIV knowledge, intention to practice safe sex, and reduced condom failures in response to five CAI programs: (1) "AIDS Interactive" an information-motivation-skills-based program; (2) a Motivational interviewing Program; (3) "Reducing the Risk;" (4) "What Could You Do?" and (5) "Project LIGHT".[47; 48; 50-52]

- **AIDS Interactive.** This study evaluated a computer-delivered program using stories, role models and demonstrations to provide information about HIV prevention.[47] Social learning and social cognitive theories served as the basis for the content.[28] A group of 152 college students were randomized to receive the CAI, a lecture or no intervention. The participants in the CAI group scored significantly higher in HIV knowledge and intentions to practice safe sex with their current partner.

- **Computer-Delivered Intervention.** This theory-based, individually tailored HIV risk-reduction intervention was tested in a randomized trial with 157 college students.[48] The intervention content

and delivery were based on the Information-Motivation-Behavioral Skills Model of Health Behavior Change and used Motivational Interviewing techniques. Participants completed a baseline assessment of HIV prevention information, motivation, behavioral skills and behavior; attended two brief computer-delivered intervention sessions; and completed a follow-up assessment. Compared to the control group, which received a nutrition tutorial, students who interacted with the computer-delivered HIV/AIDS risk reduction intervention exhibited a significant increase in risk reduction behavior, including having condoms available. The treatment group also displayed greater condom-related knowledge at a 4-week follow-up session and sexually active students reported significant increase in condom use.

- **Reducing the Risk.** This program involved a computer-based intervention designed to change perceived threat, perceived efficacy, attitudes, and knowledge about pregnancy, STI, and HIV prevention in rural adolescents. The intervention, which was guided largely by the Extended Parallel Process Model (EPPM), was implemented and evaluated in nine rural high schools using a pretest/posttest control-group design. The EPPM, developed by Witte, Myer, & Martell,[49] asserts that individuals are not likely to change their health behaviors unless they perceive a health threat that is both personally relevant and severe, and they perceive a recommended solution to be effective and easy to do. More than 91 percent of students in the treatment group completed at least one of the six computer-based activities. Analyses revealed that students in the treatment group outperformed students in the control group on knowledge, condom self-efficacy, attitudes toward waiting to have sex, and perceived susceptibility to HIV. These results suggest that computer-based programs may be a cost-effective and easily replicable means of providing teens with basic information and skills necessary to prevent pregnancy, STIs, and HIV.[50]

- **What Could You Do?** Downs and colleagues[51] conducted a longitudinal randomized study to evaluate the impact of "What Could You Do?" an interactive video intervention aimed at increasing 300 urban adolescent girls' knowledge about STIs, and reducing self-reported sexual risk behavior and STI acquisition. The video provides a cognitive rehearsal session where teenagers can apply generic points they have learned to actual situations. When the teenager chooses a low-risk behavior for the girl in the video (refraining from sex or using a condom), the video then shows the boy trying to pressure her while the girl remains steadfast in her decision—reinforcing the healthy decision. When a high-risk option is chosen (having unprotected sex), no reinforcement is provided. To reinforce the intervention's messages, all teens are eventually directed to a portion in the video where the girl chooses to bring a condom with her and refuses to have sex without it.

  Self-report assessments revealed that those assigned to the interactive video were significantly more likely to be abstinent in the first three months following exposure to the intervention and experienced fewer condom failures in the following three months, compared to controls. Six months after enrollment, participants in the video condition were significantly less likely to report having been diagnosed with an STI.[51]

- **Project LIGHT.** Lightfoot, Comulada & Stover[52] evaluated a computerized version of Project LIGHT (Living in Good Health Together), an intervention targeted at high-risk adults and adolescents that has a track record of increasing condom use. Researchers examined sexual behavior among high-risk adolescents in three conditions: (1) computer-based, (2) small groups, and (3) control. They found that the computerized version was even more effective than the small groups. Adolescents in the computerized intervention were significantly less likely to engage in sexual activity and reported significantly fewer partners in the following three months than those in the other two conditions.

Although these studies indicate much promise from computer-based interventions, it remains unclear precisely which attributes of such programs are necessary for success. Health researchers still need to study the design components (e.g., navigability, interactivity, graphic elements) to determine which achieve the highest effects among each audience.

Impact data are rare, but several content analysis studies have looked at safe sex website design.[53-55] Although many websites are targeting safe sex messages to teenagers, they do little tailoring by sexual orientation and almost no tailoring by other audience characteristics. This tailoring could be done by using data provided by website users.[55] Many sites promote condom use and abstinence but few discuss other strategies, such as reducing the number of partners, reducing casual sex, or delaying first intercourse.[53; 55] Almost all websites examined attempted to raise the threat of STI/HIV rather than change behavior through shifting social norms or positive appeals, although a significant number of sites did address self-efficacy for both condom use and negotiating safe sex. The interactivity, or individual tailoring, of safe sex websites for teenagers, in general, remains low. However, other new media technologies offer much more interactivity.

Interactive New Media Technologies

Several promising efforts are using highly interactive new media technologies to address sexual risk. Although most such efforts have not yet been evaluated, it is important to discuss them as new opportunities for interventions. New websites on the Internet, like YouTube, Facebook, and MySpace, allow users from all over the globe to share videos, messages, images, chats, threaded discussions, and games.

- **Evolve Campaign.** This Internet campaign, sponsored by Trojan and designed to increase the social acceptability of condoms, is a good example of how the Internet and social networking sites might be used to promote sexual health. In the first year, Trojan placed "Evolve" video advertisements on YouTube and attracted 100,000 viewings, with another 400,000 viewing the ads on **www.trojanevolve.com**. In the online video clips, women in a bar are surrounded by anthropomorphized, cell-phone-toting pigs. One shuffles to the men's room, where, after procuring a condom from a vending machine, he is transformed into a handsome man in his 20s. When he returns to the bar, a fetching blond who had been indifferent now smiles at him invitingly. The ads were also aired on TV, yet, it is important to note that even with such highly produced advertisements ready to pay for airtime, two TV networks (CBS and Fox) refused to run the ads nationally and some local ABC and NBC stations refused to air them.

  The campaign now has more than 48,000 "friends" on MySpace, and many more on Facebook.

- **Stay Teen.** In another effort to harness the power of the Internet, The National Campaign to Prevent Teen and Unplanned Pregnancy partnered with MySpace to produce the "Stay Teen" PSA contest. In its first month the contest attracted 100,000 page views and 8,000 friends.

- **Pause Campaign.** This effort, a partnership of the Fox Networks Group, MySpace.com, and the Kaiser Family Foundation, asks teenagers to pause before they make important health decisions about sex, online safety, substance use, and other health topics.

- **SexInfo.** Another innovative new media intervention capitalizes on young people's frequent use of cell phones. Internet Sexuality Information Services, Inc. (ISIS-Inc), a non-profit dedicated to online sexuality education based in Oakland, CA, partnered with the San Francisco Department of Public Health to develop a sexual health text messaging service for youth. SexInfo, which answers commonly asked questions such as what to do if a condom breaks, was inspired in part by a similar

project at a London clinic (**https://ssl15.lon.gb.securedata.net/brook.org.uk/submission/BRK_Text.asp**). The intervention asks teens to use their cell phones in a manner similar to when they vote for their favorite "American Idol" contestant. Urban youth can also use the service to send in reports of partners who may be infected with an STI, partners who may be cheating, or concerns about unprotected sex. The youth use single digits to alert the health department and solicit advice.

If a cell phone user sends the text message "sexinfo" to one of two phone numbers set up by the health department, the system will send back a reply asking the user to choose one of several categories that matches his or her question. Preliminary data show that 4,500 callers used the service during the first 25 weeks. Of these, 2,500 led to referrals and requests for more information. The most popular call requests were: "A1 if ur condom broke;" "C3 to find out about STIs;" and "B1 if u think ur pregnant".[56]

To assess the demographic characteristics of SexInfo users, the San Francisco health department conducted surveys in 2006 of a convenience sample of 322 patients aged 12 to 24 at clinics to which SexInfo users were most commonly referred. Consistent positive associations were found between demographic risk factors for STIs and campaign awareness. Overall, 11 percent of the clinic patients reported awareness of the campaign.

- **InSPOT**. ISIS-Inc also launched a website (**www.inSPOT.org**) that enables people with STIs to send anonymous email warnings to their partners that could help slow a rise in new infections. The site uses the E-Card model to send messages to notify people that they may have been exposed to an infection (e.g., "Sometimes there are strings attached. I got diagnosed with STIs since we were together. Get checked out soon."). The site also offers information about getting tested and treatment.[57] Initially employed in San Francisco, InSPOT is now available in ten U.S. states, nine cities, and three locations outside the United States, including Ottawa, Toronto, and Romania.

- **Talking Sex Together Campaign.** The Iowa Network for Adolescent Pregnancy Prevention, Parenting, and Sexual Health launched the "TxT-Talking Sex Together Campaign" in February 2008, but has not yet reported any evaluation data. The campaign encourages teens to communicate messages of abstinence, teenage pregnancy avoidance, and safer sex through text messaging. To facilitate conversations among teens, the campaign invites teens to develop and send euphemisms that deliver important messages about sex. A teen might, for example, text her friend who is on a date and remind her to ZIU or "zip it up" in the heat of the moment. The teen, thus, signals to her friend that she has peer support and reminds her to make smart decisions.

  To increase participation in the TxT campaign, schools and youth programs with the greatest number of unique euphemism entries will receive a prize from a local radio station. Radio PSAs, posters, laminated cards, screen savers for computers, and advertisements for student newspapers are being distributed to help schools spread the word about the TxT campaign.[58]

By allowing teenagers to create and send their own messages, the TxT campaign and other like it are using media in a new way, a way that empowers and involves the audience more actively than some of the more traditionally delivered media campaigns. Given the newness of the ventures, we still have much to learn about which techniques and strategies are most effective in generating attention and, ultimately, safe sexual behavior.

Other new media ventures for sexual health include:

- The Midwest Teen Sex Show (**www.midwestteensexshow.com/**), a video podcast about various sex topics produced by adolescents.

- The "Morph Monkey Facebook" is a new application from the American Social Health Association that aims to spread Chlamydia information on Facebook. Users can select pictures of their friends to see what their combined child will look like. As the user begins to morph the images, a pop-up box informs the user that he or she has given the friend Chlamydia.[59]

- In Summer 2008, the Internet Sexuality Information Services (ISIS, Inc) teamed up with the University of Colorado and Columbia University to launch "In Brief," a competition for youth to design their own STI/HIV prevention messages for underwear.[60]

- Mobile phones are being used to deliver results from STI tests, offer coupons, remind patients to take their medicines, and help diagnose infections.[61]

Additional initiatives are also underway, according to sex and technology experts at the CDC. Sexual health educators are contemplating and creating new sexual health applications for the iPhone, Facebook, and Twitter, a service that lets people send mass text and instant messages to their friends.

LESSONS LEARNED AND RECOMMENDATIONS

A number of lessons can be learned and recommendations drawn from the U.S.-based media interventions for adolescent sexual health reviewed here. Perhaps the first and most poignant recommendation is that more needs to be done—both in terms of the kinds and characteristics of the interventions and how they are evaluated.

USE THEORY WHEN DESIGNING THE INTERVENTION

Only 10 of the 20 studies in this review explicitly used a theoretical design in their formation.[14; 31; 34-36; 47-49; 51-52] Self-efficacy, the feeling that it is possible to perform a desired behavior, and social support for behavior change are two theoretical constructs that have been shown to be important for behavior change in other studies as well as the ones reviewed here. Self-efficacy is found in many of the most frequently used theories, including Social Cognitive Theory, the Health Belief Model, and the Transtheoretical Model.[28; 62-63] Social support specific to reducing risk behavior is associated with increased self-efficacy. The powerful effects of building behavior-specific self-confidence was exemplified by the computer-based HIV-risk reduction program that used Information-Motivation-Behavioral Skills Model of Health Behavior Change and used Motivational Interviewing techniques.[48] The use of technology to build social support was demonstrated by the Trojan Evolve campaign's successful dissemination on MySpace and Facebook.

Both self-efficacy and social support can and should be addressed in media interventions. Social support for healthy sexual behavior change increases the likelihood of individual change in response to a media message or intervention.[63]

INVOLVE THE AUDIENCE, SEGMENT IT APPROPRIATELY, AND TAILOR MESSAGES

Other lessons for campaign design include the need to foster audience participation and tailor messages to address different audience segments according to social identities and risk levels. Fifteen of the interventions included in this review involved the audience in some way, either through formative research in media message design or in the dissemination of messages (see Table 3-1). Alstead,[64] among others, showed how audience involvement in campaign design and message delivery can enhance a project's effects. Audience involvement increased effectiveness in Alstead's review by giving people a sense of ownership over health messages, and therefore, more investment in a program's success. Audience involvement in messages design and campaign planning increases a campaign's ability to use formats, channels, and strategies that are likely to resonate with the target

CASE STUDY:
SEXINFO: A SEXUAL HEALTH TEXT MESSAGING SERVICE

OVERVIEW: In 2006, the San Francisco Department of Public Health (SFDPH) collaborated with the Internet Sexuality Information Services, Inc. (ISIS-Inc) to develop a sexual health text messaging service with the goal of decreasing STI rates among adolescents in San Francisco, CA.[56] The service was modeled after a similar service in the UK.

SEXINFO, which is targeted to urban African-American adolescents age 12 to 24, provides basic facts about sexual health and relationships, along with referrals to youth-oriented clinics and social services. In order to participate, youth text the word "SEXINFO" to a 5-digit number and receive a phone tree with different codes for different information. For example, teens can text B2 if they think they are pregnant to get information about where to find the nearest clinic. There is also a website where parents, participants, and others can see sample messages online www.sextextsf.org.

Focus groups with youth were conducted to discuss the feasibility of the service and to help determine the most appropriate ways to market the service. Text scripts were developed by health educators at ISIS-Inc. based on the focus group discussions. A group of community organizations also met regularly to provide guidance on the project. The organizations included clinic staff, high school health programs, juvenile probation departments, and clergy from a large African-American congregation.

In order to let youth know about the service, SFDPH and ISIS-Inc worked with the Youth

United Through Health Education program (run by SFDPH) to develop and test promotional materials. The materials included posters, palm cards, bus shelter ads, and banner ads on Yahoo!. A press release was also picked up by local newspapers, television, and radio.

The program, which costs about $2,500 a month, aims for the text messaging process to take about 1 to 2 minutes, and most messages end with the distribution of a phone number that users can call for more information (www.sexinfoSF.org). The service is now being replicated in Washington, D.C. (www.realtalkdc.org).

FINDINGS: A preliminary evaluation to determine the number of youth using the service and the most frequent requests through the service has been conducted. More than 4,500 inquiries were sent in the first 25 weeks of the service, and 2,500 of those inquiries led to information and referrals. The top three messages accessed were related to (1) information about what to do if the condom broke; (2) finding out about STIs; and (3) information about pregnancy.

An evaluation was also conducted to determine who was using the service. According to surveys based on a convenience sample, 11 percent of respondents reported awareness of the campaign. African-American youth were more likely to report awareness of the campaign as were youth living in the target areas. Younger youth (ages 12 to18) were more likely than older youth (ages 19 to 24) to report awareness of the campaign as were youth with the least expensive cell phone provider compared to those with the most expensive cell phone provider.

audience. The **truth®** campaign's use of "cutting edge" ads to target youth is a good example.[20]

Commercial marketing techniques, such as direct mail campaigns that address specific recipients, have demonstrated the value of audience segmentation and targeting through formative research. These techniques need to be replicated in sexual health campaigns.[14] The ultimate purpose of segmentation is to divide heterogeneous audiences into more homogenous subgroups whose preferences will be similar enough so that campaign messages will be maximally effective when targeted to that subgroup.[65] Many variables can be used to segment, including race/ethnicity, gender, age, risk level, and sensation-seeking attributes.

Bushley and colleagues,[66] for example, showed the effectiveness of targeting in recruiting young women for an HPV vaccine study with a campaign designed specifically to address Hawaii's diverse culture. The Kaiser Family Foundation[36] achieved success by specifically targeting African-American youth in its "Rap it Up" campaign.

Because few efforts have targeted young adolescents, and because sexual risk behaviors often begin in pre- and early adolescence, media efforts also need to be designed to speak to younger audiences with age-appropriate messages.

FOCUS ON HIGH-RISK YOUTH

A focus on high-risk youth also may be productive. Interventions are more likely to achieve measurable effects if they steer clear of health beliefs or behavior areas that are already close to desirable levels at baseline. For example, the King County, WA, condom promotion campaign showed little change in promoting condom efficacy, probably due to the community's high level of condom use at baseline (75 percent).[64] The "Two-City Safer Sex" campaign conducted focus groups with high-sensation seekers before designing messages and targeted those youth specifically.[14] The "KNOW HIV/AIDS" campaign partnered with the Black Entertainment Television (BET) network to reach African-American audiences with messages about safe sex and HIV prevention because black youth are typically at higher risk of acquiring HIV than are white youth.[36] By targeting a high-risk population, the KNOW HIV/AIDS campaign increased its chances of effectiveness and efficiently channeled resources to those most in need.

PROMOTE THE ADOPTION OF NEW BEHAVIORS

Focusing on a new behavior rather than trying to change an old habit may also increase effectiveness of media interventions. Similar to commercial marketing, where selling new purchases is easier than teaching lifestyle changes that involve abstention, health interventions that promote something new, be it a condom, nicotine patch, seat belt, or clinical test, are more likely to be effective than those that ask users to stop doing something, like having sex, smoking, or drinking.[1]

The types of health behaviors promoted by the interventions discussed here ranged quite a bit, with some of the actions being more concrete than others, including using a condom, engaging in parent-child communication, calling a hotline, text messaging a friend, or designing a slogan. In all, about 13 of the 20 interventions reviewed suggested some kind of new behavior rather than the cessation of an old one.

MAXIMIZE CAMPAIGN EXPOSURE

No degree of targeting will achieve effects if the messages are not seen or heard. Although most of the sexual health interventions reviewed here used multiple channels, evaluations have not sufficiently analyzed which channels are most effective for various audiences, nor whether more channels are better than fewer. Recent evidence suggests, however, that significant changes can be achieved using only one channel, such as television or radio,[13; 67] if exposure of the target audience is high enough.

Because reach (the proportion of the intended audience exposed to the messages) and frequency (the number of times a desired recipient sees or hears a message) are important for media effects, process evaluation should be conducted to document exposure levels mid-stream to maximize reach. Nine of the 20 interventions reviewed here reported achieving high levels of exposure to their messages and were among the most effective interventions (see Table 3-1).

One advantage of E-E and media advocacy strategies is that most existing broadcast programs and news publications have high reach. Control over content lies outside the health educators' influence, however. Moreover, because of the high cost of commercial airtime and print placement, interventions that buy time or space often are limited to one-time messages or low repetition, and thus reduce the frequency with which an audience may view or hear the campaign's messages.

In a review of campaigns targeting a wide range of health behaviors, Snyder and Hamilton[1] found that average reach levels were surprisingly low (only 36 percent to 42 percent of intended audiences saw or heard the campaign messages). Some recent interventions, however, such as the "Two-City Safer Sex" campaign described above, have achieved higher reach levels of 85 percent to 96 percent by leveraging purchased time for additional donated air time.[14] When multiple channels are used, Derzon & Lipsey[68] recommend coordinating the various campaign components, to ensure consistency and reinforcement. Noar[69] recommends achieving higher saturation levels with one channel, such as TV, if finances allow, and it is clear that the target audience will be reached with that channel.

BUILD SUSTAINABLE PROJECTS

A related issue is sustainability. One of the biggest barriers to effective public health media interventions is that they do not last long enough. Studies have consistently shown that the media's effects on health risk behaviors are short-lived.[14; 64; 70] Limited resources for media interventions have severely hampered the ability to disseminate the kind of interventions that might achieve longer-term effects. Perhaps the best comparisons stem from the world of private marketing, where advertising campaigns are ongoing.

USE MEDIA ADVOCACY

Media advocacy offers one solution to public health's typically limited budget. News coverage of sexual health issues may be particularly important during times of budget cuts when the public's exposure to explicitly formulated public health messages is reduced.[71] The news works both directly to inform the public and indirectly to shape notions of the importance of particular issues and events.[71; 72] News coverage also can provide various stakeholders, such as policy makers, with helpful perspectives on relevant causal factors and possible solutions.[73]

Media advocacy has become an important component of comprehensive public health communication programs with resources dedicated to working with newspapers as a key outlet for health messages.[74; 75] By working directly with the producers of local news, advocates seek to influence the level of consideration afforded to specific concerns and their potential solutions, and to counteract or reframe arguments proposed by opponents.[71]

USE NEW MEDIA TECHNOLOGIES

New media technologies need to be explored more fully by sexual health educators and public health researchers. Internet, MP3, and cell phone technologies not only offer the potential of more cost-effective dissemination, but also the ability to reach a greater diversity of adolescent audiences (including young adolescents) in ways never before possible. Fifteen of the interventions examined here used new media technologies in an innovative way, beyond the simple presence of a less interactive website (see Table 3-1). Clinic waiting rooms offer one avenue for evaluating new technology interventions with randomized controlled trials, and may include the possibility of using behavioral markers for documenting effects among patients.

The promising new interventions still need to be stringently evaluated, and more broadly disseminated once success has been established.

CONDUCT CAREFUL EVALUATIONS

The surprising lack of data on domestic media interventions for adolescents' sexual health is partly due to the lack of large-scale efforts. Many of the interventions reviewed here have been generated by local or regional groups, rather than on a national or multi-state scale. Yet, even with smaller-scale efforts, it is important to conduct evaluations that can assess whether the cost and time is valuable and to determine which campaign components are most important.

Only one study in this review of U.S.-based interventions, the "Two City Safer Sex Project," employed a field experimental approach,[14] and only five used randomized controlled trials: "AIDS Interactive," "What Could You Do?," "Project LIGHT," "Reducing the Risk," and a Motivational Interviewing Program, all of which were computer-based instruction disseminated in controlled environments.[47; 48; 50-52] Many of the interventions reviewed here included only a post-test or one-group only pre/post-test comparisons (e.g., "Know HIV/AIDS," and the E-E cases.[19; 32; 33; 36])

Given the difficulty of conducting randomized controlled trials to assess the success of mass media interventions, more field experiments or quasi-experiments should be conducted, using time series analyses or pre/post-test control group designs.[56; 70]

The majority of the evaluations also relied solely on self-reports to document audience effects, but such measures are subject to social desirability bias. In the future, it would be helpful to include measures of actual sexual behavior, such as simple STI tests, to assess for safe sex behavior.

CONCLUSIONS

It appears that much has been learned in recent years about how to conduct mass media interventions to promote adolescents' sexual health. Increasing evidence seems to confirm that, if designed according to the best practices identified here and elsewhere, media interventions have a good chance of achieving their intended effects. It is also clear, however, that we have more to learn. We are only just beginning to use the new media technologies in the interest of sexual health, we are not in agreement about the value of multiple channels, and more rigorous evaluations are needed, even though they are difficult and often costly.

Looking into the future, it will be exciting to learn how the newest interactive technologies are working in the sexual health arena, and how the best practices to date can be incorporated into these new approaches.

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TABLE 3-1 SUMMARY OF SEXUAL HEALTH MASS MEDIA CAMPAIGNS IN THE UNITED STATES

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
ENTERTAINMENT-EDUCATION (E-E)				
The Bold & The Beautiful[33] 2001	Nationwide	**Who:** • CDC • CBS **What:** • E-E • Public Service Announcements (PSAs) • Hotline **Target Audience:** • Adults and youth **Goals:** • Increase HIV/AIDS knowledge • Increase hotline calls	☑ Theory-Based ☐ Audience Involvement ☐ Tailoring ☑ Maximize Campaign Exposure ☐ Target High Risk Youth ☑ Promote New Behaviors ☐ Careful Evaluation	**Effects:** • The first PSA generated a total of 1,426 calls to the CDC's national HIV/AIDS hotline during the soap opera time slot, compared to 88 calls the previous day and 108 calls the day following the episode. • Ten days later when the PSA was shown again, the call volume spiked even higher to 1,840 calls originating during and shortly after the episode. • In comparison, the hotline received 94 calls the day before and 234 calls the day after the HIV episode.

* Note that these characteristics are based on the recommendations in the chapter. A check mark denotes that the intervention explicitly incorporated that particular characteristic.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
ENTERTAINMENT-EDUCATION (E-E)				
Friends[35] 2002	Nationwide	**Who:** • Kaiser Family Foundation (KFF) **What:** • E-E **Target Audience:** • Youth, ages 12-17 **Goals:** • Promote condom use • Prevent teen pregnancy	☑ Theory-Based ☐ Audience Involvement ☐ Tailoring ☑ Maximize Campaign Exposure ☐ Target High Risk Youth ☑ Promote New Behaviors ☐ Careful Evaluation	**Exposure:** • A post-test survey, funded by KFF, found that, among teens who had viewed the episode, two-thirds (65%) remembered that the specific storyline depicted an unplanned pregnancy caused by condom failure. **Effects:** • 40% of teens who reported watching the "Friends" episode watched it with a parent or adult, and 10% of them talked with an adult about the effectiveness of condoms as a result of the episode. • 47% of teens who discussed the episode with an adult recalled the characters describing condoms as being 95% or more effective. • Compared with peers who watched alone or with another youth, teens who watched with a parent or adult were twice as likely to say they learned something new about condoms from the episode (38% vs. 15%), as well as to recall that condoms were said to be between 95% and 100% effective (40% vs. 20%). • A follow-up survey 6 months later found that teens who watched the episode about condom efficacy were more likely to rate condoms as 95% to 100% effective than teens who did not view the episode (30% vs. 18%).

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
ENTERTAINMENT-EDUCATION (E-E)				
ER[33] 1997-2000	Nationwide	**Who:** • KFF **What:** • E-E **Target Audience:** • Young adults 18+ **Goals:** • Increase emergency contraception awareness • Increase HPV knowledge • Prevent HPV	☑ Theory-Based ☐ Audience Involvement ☐ Tailoring ☑ Maximize Campaign Exposure ☐ Target High Risk Youth ☑ Promote New Behaviors ☐ Careful Evaluation	**Methods:** • KFF conducted a study involving 10 national random-sample telephone surveys conducted between March 1997 and April 2000 of more than 3,500 regular ER viewers aged 18 and older (300–500 participants per survey). **Effects:** • After a brief vignette about emergency contraception (EC), the percent of viewers who were aware of EC increased by 17 percentage points (50% to 67%). • Among those who had heard of emergency contraception, 20% said they had learned about it on ER. • After an ER episode aired about HPV, the proportion of viewers who had heard of HPV nearly doubled (from 24% to 47%), and the proportion who could correctly define HPV tripled (from 9% to 28%).

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
ENTERTAINMENT-EDUCATION (E-E)				
KNOW HIV/AIDS & Rap it Up[36] 1998-present	Global	**Who:** • KFF • Viacom • CBS **What:** • PSAs (TV and radio) • outdoor ads (billboards, bus) • E-E • website **Target audience:** • Young adults, ages 18-25 • Men who have sex with men (MSM) • Latinos • African-Americans, ages 18-25 **Goals:** • Increase awareness of HIV/AIDS and how to prevent it • Promote dialogue between partners • Encourage testing • Address social stigma • Promote safer sex behaviors	☑ Theory-Based ☑ Audience Involvement ☑ Tailoring ☑ Maximize Campaign Exposure ☑ Target High Risk Youth ☑ Promote New Behaviors ☐ Careful Evaluation	**Methods:** • Princeton Survey Research Associates in 2004 surveyed 800 African-Americans 18 and older. **Exposure:** • More than 8 in 10 African-American adults reported having seen at least one of the ads or shows. • 48% of all African-Americans report having seen at least 3 or more of the ads. **Effects:** • 85% of African-Americans who saw campaigns say the programming really made them think, or that it gets people talking about HIV and AIDS (82%). • The vast majority of viewers in the target audience say the programming made them more likely to take their sexual relationships seriously (73%), and to practice safer sex (66%). • 40% of African-Americans who saw the programming report they took at least one action to protect their own health after seeing the ads or shows, as did 58% of those in the 18-24 year-old age group. • The most widespread behavioral change reported was talking to a partner about safer sex. • 35% of all African-Americans and 52% of those aged 18-24 say they were moved to do this by the ads or shows they saw. • 37% of viewers in this age group say they either visited a doctor or got tested for HIV because of the programming they saw.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
PUBLIC SERVICE ANNOUNCEMENTS (PSAs)				
Two-City Safer Sex[14] 2003	Lexington, KY	**Who:** • University of Kentucky **What:** • PSAs (10) **Target Audience:** • At-risk young adults, ages 18-26 **Goals:** • Increase safer sexual behavior among high sensation-seekers and impulsive decision-makers	☑ Theory-Based ☑ Audience Involvement ☑ Tailoring ☑ Maximize Campaign Exposure ☑ Target High Risk Youth ☑ Promote New Behaviors ☑ Careful Evaluation	**Methods:** • An interrupted-time-series design. Independent, monthly random samples of 100 individuals were surveyed in each city for 21 months. **Exposure:** • 85% to 96% of the audience reported seeing one or more PSAs during the 21-month campaign, varying over the month audience members were surveyed. **Effects:** • Analyses indicated a significant 5-month increase in condom use, condom-use self-efficacy, and behavioral intentions among the target group in the campaign city with no changes in the comparison city; authors estimate the overall effects to be a 13% increase in safer sex acts.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
PUBLIC SERVICE ANNOUNCEMENTS (PSAs)				

It's Your Sex Life (Think MTV)[18]
 	
1997-2003
	Nationwide	**Who:**
		• KFF
		• MTV
		
		What:
		• PSAs (62 different ones)
		• Full-length shows (30 minutes)
		• Web site
		
		Target audience:
		• Sexually active teens and young adults, ages 16-to-24
		
		Goals:
		• Raise awareness about risks
		• Encourage young people to discuss safer-sex issues
		• Promote condom use
		• Encourage testing for HIV/STI
			☑ Theory-Based
			
			☑ Audience Involvement
			
			☑ Tailoring
			
			☑ Maximize Campaign Exposure
			
			☑ Target High Risk Youth
			
			☑ Promote New Behaviors
			
			☐ Careful Evaluation
				Methods:
				• A survey of 1,000 16-to 24- year-olds nationwide.
				
				Exposure:
				• Close to a million young people have called the campaign's toll-free hotline to receive additional information on sexual health topics, be connected with a counselor, or find a local HIV/STI testing center.
				• Millions have also visited the comprehensive website.
				
				Effects:
				• More than one in two young adults recognized the campaign, and many said they acted on what they saw.
				  ◦ 59% of 16- to 24-year-olds across the country recognize the brand.
				  ◦ 52% of all 16- to 24-year-olds in the country say they have seen sexual health ads on MTV, and 32% say they have seen full-length shows.
				  ◦ 63% of those who have seen the campaign say they personally learned new information from it.
				  ◦ Among those who are not yet sexually active, 66% say the campaign made them more likely to wait to have sex.
				  ◦ Among those who have already had intercourse, 73% said it has made them more likely to take relationships more seriously; 73% said they are more likely to use condoms; 69% are more likely to talk to their partner about safer sex; and 65% are more likely to get tested for HIV or other STIs.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
PUBLIC SERVICE ANNOUNCEMENTS (PSAs)				
Talk to Your Kids About Sex[19]	North Carolina (32 counties)	**Who:** • State of North Carolina • Adolescent Pregnancy Prevention Coalition of North Carolina **What:** PSAs (paid): • radio (in 21 counties) • TV (in 22 counties) and • billboard (in 6 counties) **Target Audience:** • Parents and teens **Goals:** • Promote parent-child communication	☐ Theory-Based ☐ Audience Involvement ☐ Tailoring ☐ Maximize Campaign Exposure ☐ Target High Risk Youth ☑ Promote New Behaviors ☑ Careful Evaluation	**Methods:** • The counties varied from no exposure to exposure to all 3 types of media during the 9 month campaign. To assess the impact of the campaign, a sample of 1,132 parents of adolescents living in the 32 counties was administered a post-exposure survey via a telephone interview. **Effects:** • In bivariate analyses the levels of parental exposure to the 3 types of media messages were associated with both having talked to their children and intentions to talk to their children about sex ($p < .0001$). • Exposure to each component of this mass media campaign was associated with parents recently having talked to their adolescent children about sex and intentions to talk to their children during the next month.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
MEDIA ADVOCACY				
Following *ER*[41] 1997-2001	Nationwide	**Who:** • KFF • Johns Hopkins University Bloomberg School of Public Health • NBC News Channel **What:** • 90- second news segments • Hotline • Online resources **Target audience:** • Adults and youth **Goals:** • Reinforce health messages in show	☐ Theory-Based ☐ Audience Involvement ☐ Tailoring ☑ Maximize Campaign Exposure ☐ Target High Risk Youth ☐ Promote New Behaviors ☐ Careful Evaluation	**Exposure:** • Broadcast in 37 of top 40 media markets nationwide. • Total audience of 120 million cumulatively. Audience sizes ranged from 400,000 to over 2 million per episode; each episode averaged about one million viewers.
MEDIA INTERVENTIONS USING NEW MEDIA TECHNOLOGIES – Using a New Application for Existing Information				
AIDS Interactive[47] 1997	Texas	**Who:** • University of Texas, Austin **What:** • Computer-assisted instruction (CAI) **Target audience:** • Young adults ages 19 to 23 **Goals:** • Increase HIV knowledge • Increase safe sex behavior	☑ Theory-Based ☑ Audience Involvement ☐ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☑ Promote New Behaviors ☑ Careful Evaluation	**Methods:** • A group of 152 undergraduate students ages 19 to 23 were randomly assigned to receive CAI, a lecture or no intervention. Both the lecture and the CAI had the same content and lasted 1 hour. **Effects:** • Participants in the CAI group scored significantly higher on the scales of HIV knowledge and intention to practice safe sex with their current partner.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
MEDIA INTERVENTIONS USING NEW MEDIA TECHNOLOGIES – Using a New Application for Existing Information				
Computer-Delivered Intervention [48] 2006	Connecticut	**Who:** • University of Connecticut **What:** • CAI **Target Audience:** • Young adults, ages 18-23 **Goals:** • Increase condom use • Reduce sexual risk taking	☑ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☑ Promote New Behaviors ☑ Careful Evaluation	**Methods:** • Intervention delivered to 157 college students in two sessions the first lasting 15 to 40 minutes and the second lasting 10 to 20 minutes. Control group received a tutorial about nutrition lasting same duration. Participants completed a baseline assessment of HIV prevention information, motivation, behavioral skills and behavior, attended two brief computer-delivered intervention sessions, and completed a follow-up assessment. **Effects:** • Treatment participants reported a greater frequency of keeping condoms available and displayed greater condom-related knowledge at a 4-week follow-up session; sexually active participants reported a significant increase in condom use.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
MEDIA INTERVENTIONS USING NEW MEDIA TECHNOLOGIES – Using a New Application for Existing Information				
What Could You Do?[51] 2004	NA	**Who:** • Carnegie Mellon University **What:** • Interactive video intervention **Target audience:** • Urban teens girls **Goals:** • Increase STI knowledge • Decrease sexual risk behavior • Reduce STI acquisition	☑ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☐ Promote New Behaviors ☑ Careful Evaluation	**Effects:** • Self-reports revealed that those assigned to the interactive video were significantly more likely to be abstinent in the first 3 months following initial exposure to the intervention, and experienced fewer condom failures in the following 3 months, compared to controls. • Six months after enrollment, participants in the video condition were significantly less likely to report having been diagnosed with an STI.
Project LIGHT[52] 2007	California	**Who:** • Center for Community Health, University of California **What:** • Computerized version of interpersonal program **Target audience:** • High-risk young adults and adolescents ages 14 to 21 **Goals:** • Increase condom use	☑ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☑ Promote New Behaviors ☑ Careful Evaluation	**Methods:** • The research implemented a randomized controlled trial of with the original interpersonal strategy (n=320) compared to the strategy of delivery on a CD-ROM format (n=320) and a control condition (n=320). All participants took a pre-test and 3 post-tests (at 3, 6, and 12 months). The study was implemented at the Juvenile Court and Community Schools and Community Day Schools of the Los Angeles County Office of Education. **Effects:** • Adolescents in the computerized intervention were significantly less likely to engage in sexual activity and reported significantly fewer partners over 3 months.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
MEDIA INTERVENTIONS USING NEW MEDIA TECHNOLOGIES – Using a New Application for Existing Information				
Reducing the Risk[50] 2007	NA	**Who:** • ETR Associates **What:** • CAI **Target Audience:** • Rural adolescents, high-school **Goals:** • Change perceived threat, perceived self-efficacy, attitudes, and knowledge regarding pregnancy, STI, and HIV prevention	☑ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☐ Promote New Behaviors ☑ Careful Evaluation	**Methods:** • Evaluated in nine rural high schools using a pretest/post-test control-group design. At both times 887 9th-graders completed the survey. More than 91% of students in the treatment group completed at least one of the six computer-based activities. **Effects:** • Analyses revealed that students in the treatment group outperformed students in the control group on knowledge, condom self-efficacy, attitude toward waiting to have sex, and perceived susceptibility to HIV.
MEDIA INTERVENTIONS USING NEW MEDIA TECHNOLOGIES – New Strategies for Reaching Youth				
SexInfo[56] 2006	San Francisco	**Who:** • San Francisco Department of Public Health and Internet Sexuality Information Services, Inc. (ISIS-Inc.) **What:** • Text-messaging service **Target audience:** • Urban youth **Goals:** • Inform about STIs and pregnancy • Promote testing • Promote clinic visits • Promote safe sex	☐ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☑ Promote New Behaviors ☐ Careful Evaluation	**Methods:** • A group of 152 undergraduate students ages 19 to 23 were randomly assigned to receive CAI, a lecture or no intervention. Both the lecture and the CAI had the same content and lasted 1 hour. **Effects:** • Consistent positive associations were found between demographic risk factors for STIs and campaign awareness. • Overall, 11% of respondents reported awareness of the campaign. • Preliminary data show that 4,500 callers used the service during the first 25 weeks, 2,500 of which led to referrals and requests for more information.

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
MEDIA INTERVENTIONS USING NEW MEDIA TECHNOLOGIES – New Strategies for Reaching Youth				
Evolve 2008	Nationwide	**Who:** • Trojan Brand Condoms **What:** • TV PSAs • Myspace.com • Facebook • Bus tour **Target audience:** • Sexually active adults **Goals:** • increase condom use • make condoms cool • shift social norms	☑ Theory-Based ☑ Audience Involvement ☐ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☑ Promote New Behaviors ☐ Careful Evaluation	NA
Stay Teen 2007 - present	Nationwide	**Who:** • National Campaign to Prevent Teen and Unplanned Pregnancy **What:** • PSA contest (online submission of teen generated content) • MySpace.com • Widget application • Web site (including user generated content) • videos **Target Audience:** • Youth, ages 13 to 19 **Goals:** • Prevent teen pregnancy • Teach relationship respect	☐ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☐ Promote New Behaviors ☐ Careful Evaluation	NA

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
MEDIA INTERVENTIONS USING NEW MEDIA TECHNOLOGIES – New Strategies for Reaching Youth				
Pause 2008	Nationwide	**Who:** • KFF • Fox Networks Group **What:** • Broadcast, cable and online PSAs • New media platforms, including MySpace.com **Target audience:** • Youth, ages 15+ **Goals:** • Get young people to pause before they make difficult decisions on a range of issues (e.g., teen pregnancy and STIs, alcohol and substance use, online safety)	☑ Theory-Based ☑ Audience Involvement ☐ Tailoring ☑ Maximize Campaign Exposure ☑ Target High Risk Youth ☐ Promote New Behaviors ☐ Careful Evaluation	NA
TxT: Talking Sex Together[58] 2008	Iowa	**Who:** • Iowa Network for Adolescent Pregnancy Prevention, Parenting, and Sexual Health **What:** • Text messages **Target audience:** • Teens **Goals:** • Encourage teens to exchange messages of abstinence, teenage pregnancy avoidance, and safer sex	☐ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☑ Promote New Behaviors ☐ Careful Evaluation	NA

INTERVENTION	REGION (OF THE U.S.)	SUMMARY OF INTERVENTION	CHARACTERISTICS OF THE INTERVENTIONS*	EVALUATION FINDINGS
MEDIA INTERVENTIONS USING NEW MEDIA TECHNOLOGIES – New Strategies for Reaching Youth				
In Brief[60] 2008	Nationwide	**Who:** • Internet Sexuality Information Services (ISIS) - University of Colorado - Columbia University **What:** • Underwear design contest (hosted online) **Target audience:** • Youth **Goals:** • STI/HIV prevention	☐ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☐ Promote New Behaviors ☐ Careful Evaluation	NA
In Spot[57] 2008-present	9 U.S. cities, 10 states, & 3 international locations	**Who:** • ISIS **What:** • Website - E-cards **Target audience:** • Youth and adults **Goals:** • Slow spread of new STI/HIV infections	☑ Theory-Based ☑ Audience Involvement ☑ Tailoring ☐ Maximize Campaign Exposure ☑ Target High Risk Youth ☐ Promote New Behaviors ☐ Careful Evaluation	NA

APPENDIX

HEALTH BEHAVIOR THEORIES: A SNAPSHOT AND ADDITIONAL RESOURCES

KATHERINE SUELLENTROP, M.P.H.

Health behavior theories play an important role in developing media strategies to reach adolescents. Theories are helpful in the design and evaluation of campaigns. Theories help program planners identify the key factors that should be included to have the best chance for success. Furthermore, grounding an intervention in theory allows program planners to clarify and target the intervention.

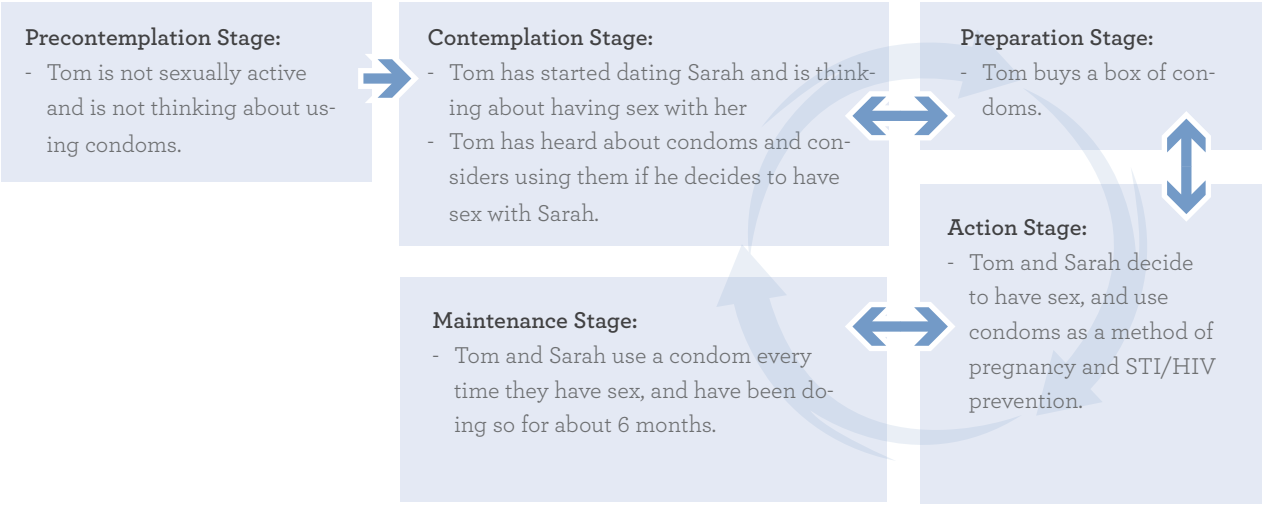
Two major health behavior theories are presented here briefly to provide a more in-depth illustration of some key theoretical constructs. Other important health theories are also listed below. Refer to Additional Resources for more detailed information about major health behavior theories and how to select the most appropriate theory for your intervention is provided in the Additional Resources section.

Stages of Change Model

Glanz, K., Rimer, B.K., Viswanath, K. (Eds.) (2008). *Health behavior and health education: Theory, research, and practice* (4th Edition). Jossey-Bass.

- The Stages of Change Model posits that individual behavior change is a process that occurs along a continuum starting when an individual moves from not considering a particular health behavior, such as condom use, to contemplating the behavior, then to preparation, action and finally maintenance (e.g., using a condom every time the person has sex). The model suggests that interventions are more successful if they target individuals at their particular stage of behavior and encourage movement to the next stage. It is important to recognize that the model can be thought of as a cycle such that an individual might move forward or circle backward through the model.

- Below, the Stages of Change Model is applied to a fictitious teen's decision to use condoms. Tom is a 17-year-old who begins dating Sarah, a girl in his class at school.

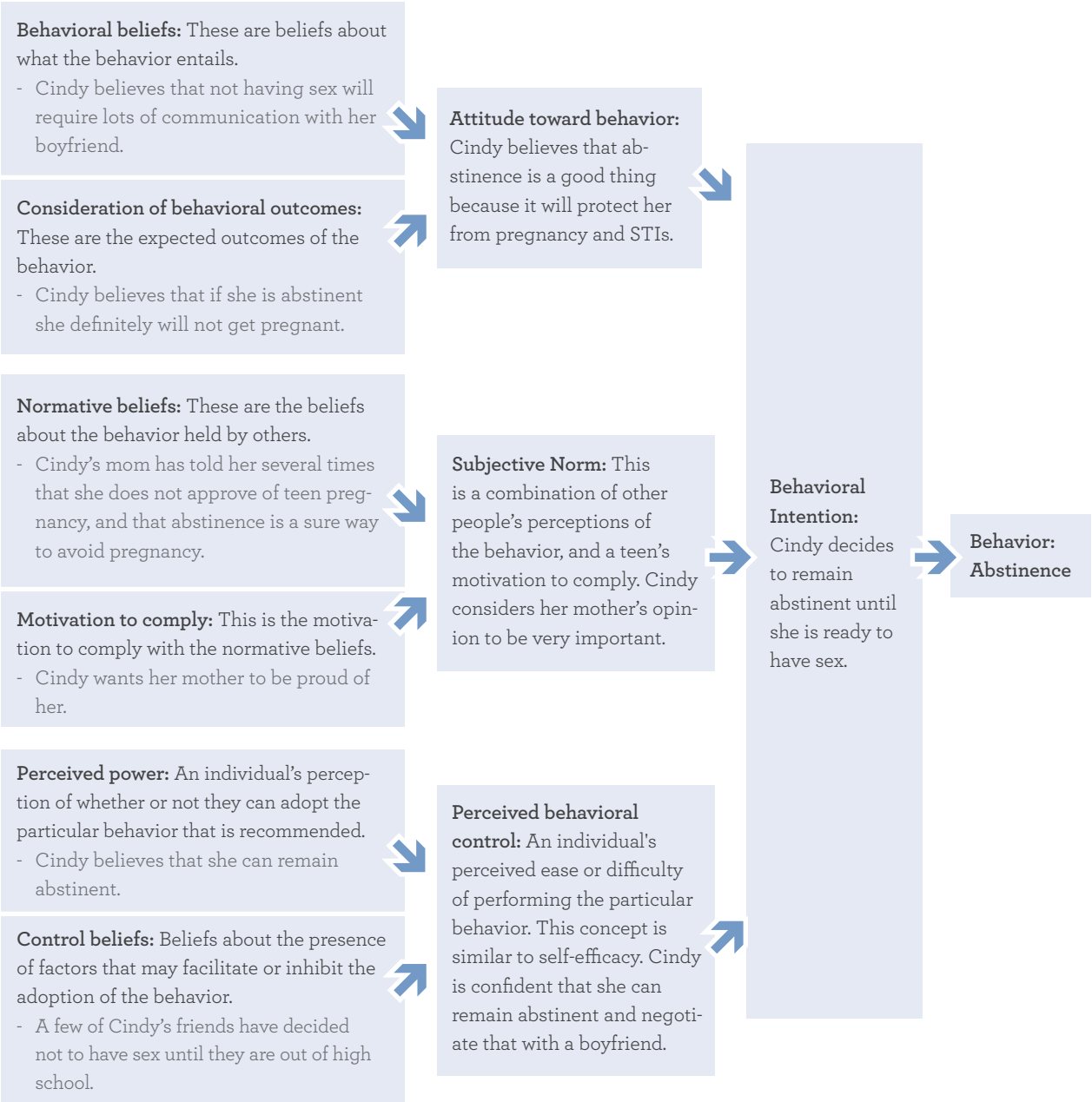


Theory of Planned Behavior

Glanz, K., Rimer, B.K., Viswanath, K. (Eds.) (2008). *Health behavior and health education: Theory, research, and practice* (4th Edition). Jossey-Bass.

- The Theory of Planned Behavior assumes that behavioral intention is the most important determinant of behavior, and that this intention is shaped by individual **attitudes** as well as the perceived approval or disapproval of the behavior by others who are important to that individual (**subjective norm**). The Theory of Planned Behavior also includes perceived behavioral control as an important construct in the model. Perceived behavioral control is an individual's belief that he/she can control a particular behavior.

- Below, the Theory of Planned Behavior is applied to the decision of a fictitious teen, Cindy, to remain abstinent.



Other Relevant Health Behavior Models and Theories:

The theories described above and those listed below are described in detail in **Glanz, K., Rimer, B.K., Viswanath, K.** (Eds.) (2008). *Health behavior and health education: Theory, research, and practice* (4th Edition). Jossey-Bass.

A more concise and readily available report, *Theory at a Glance: A Guide for Health Promotion Practice* was developed based on the 3rd Edition of the book, and is available for free download at: **www.nci.nih.gov/PDF/481f5d53-63df-41bc-bfaf-5aa48ee1da4d/TAAG3.pdf.**

Individual Level:

- Health Belief Model
  - This theory focuses on individuals' perceptions of a threat posed by a health problem (susceptibility, severity), the benefits of avoiding the threat, and factors influencing the decision to act (barriers, cues to action, self-efficacy).
- Precaution Adoption Process Model
  - This theory (which bears some similarities of the stages of change model described above) includes seven stages of change that individuals must move through – from lack of awareness to action.
- Theory of Reasoned Action and the Integrated Behavioral Model
  - This theory is a component of the Theory of Planned Behavior (described above), and posits that behavioral intention, which is influenced by individuals' attitudes toward the behavior and subjective norm, leads to behavior.
- Extended Parallel Process Model
  - This theory is a fear appeal theory which suggests that threat (such as teen pregnancy) motivates action and perceived efficacy determines whether or not the action taken controls the danger (protective) or controls the fear (inhibits the protective behavior). For example, if a young woman believes that she is at risk for becoming pregnant if she has unprotected sex, but is confident that she can use birth control safely, the person will engage in a protective behavior. However, if an individual believes she is at risk for becoming pregnant if she has unprotected sex, but she does not believe she can do anything about it, she might choose to ignore the risk and engage in unprotected sex. Thus, campaigns that follow this theory should have high threat messages as well as messages that promote strong perceptions of efficacy. (For more information see **Witte, K., Meyer, G., Martell, D.** (2001). *Effective Health Risk Messages*. Newbury Park: Sage Press)

Interpersonal Level

- Social Cognitive Theory
  - This theory describes a continuous, dynamic process in which personal factors, environmental factors, and human behavior influence each other.

Community Level

- Community Organization and Participatory Models
  - These models emphasize a community-driven approach to assessing and addressing health and social issues.
- Diffusion of Innovations
  - This theory addresses how new ideas, products, and social norms or practices spread within and between organizations, communities, or societies.

Additional Resources

- University of Michigan, Center for Health Communications Research at: **http://chcr.umich.edu/how_we_do_it/health_theories/healththeories5/chcr_document_view**

- **Salem, R.M., Bernstein, J., Sullivan, T.M., and Lande, R.** "Communication for better health," Population Reports, Series J, No. 56. Baltimore, INFO Project, Johns Hopkins Bloomberg School of Public Health, January 2008. Available online: **www.populationreports.org/j56/**
    - With an international perspective focused on family planning programs, this is a great overview of the process called Behavioral Change Communication (BCC), as practiced for more than three decades around the world by the Center for Communication Programs at Johns Hopkins. It is an excellent overview and step-by-step guide to developing interventions that include communication.

- Office of Cancer Communications, National Cancer Institute (2002). Making health communication programs work: A planner's guide. NIH Pub. No. 02-5145.
    - Affectionately known as the "**Pink Book**" because it was originally published with a pink cover, this is a description of how to plan and develop a health communication program. It is widely used by practitioners in the field. Now available online at: **www.cancer.gov/pinkbook**

GLOSSARY OF TERMS

DOSE. The specific amount of exposure to a media campaign that a person receives. A **dose effect** occurs when increased exposure to the intervention is associated with an increased likelihood of impact of the intervention.

ENTERTAINMENT-EDUCATION (E-E). A media strategy in which messages about socially desirable behavior (or risky behavior with relevant consequences) are embedded in entertaining media content. This media strategy is based on the principles of Social Cognitive Learning theory.

EARNED MEDIA. A media strategy that involves reaching out to the press (news coverage). News coverage is considered earned media because it is coverage that is earned by offering information and stories of substance for reporters to cover. This type of media coverage generally has high credibility as well because it is third-party coverage. See **media advocacy**.

MASS MEDIA. Media designed to reach large numbers of people, such as newspapers, radio, television, or the Internet.

MEDIA. The means of conveying information or expressing ideas to people. Interpersonal communication, television, magazines, movies, music, the Internet, theater, and billboards are all examples of media.

MEDIA ADVOCACY. A media strategy focused on influencing news media, rather than on entertainment. It aims to promote and maintain public awareness and discussion about an issue through communication activities such as editorials, letters to press outlets, and appearances on news and talk shows. Media advocacy is considered "earned media" because organizations do not pay for the coverage.

MEDIA CAMPAIGN. An intervention with a specific message designed to achieve specified outcomes in a relatively large number of people, over a specified period of time, through an organized set of communication activities.

MEDIA CHANNEL. The conduit used to convey messages. Television, radio, the Internet, interpersonal communication, and print are all examples of media channels.

MEDIA LITERACY. The ability to understand, critique, and use the media in an assertive rather than a passive way. A media literate person is informed about how media work, the techniques used to construct media, how to interpret media messages, and the power of the media. Media literacy programs often include discussion guides to help audiences actively question and evaluate the media they are consuming.

MEDIA STRATEGY. The approach used to convey messages using media channels. Entertainment-education, media advocacy, and public service announcements are examples of media strategies.

NEW MEDIA TECHNOLOGIES. **Often referred to as Digital Media.** The new technologies and platforms used to communicate information and ideas, including wireless technology via cell phones and Personal Digital Assistants (PDA's) and their capabilities (such as text messaging and taking pictures) and the Internet and its capabilities (such as websites, social networking sites, and gaming).

PAID MEDIA. Media airtime and print space that are purchased for the purpose of conveying messages to target audiences.

PHOTO-NOVELLA. A media strategy that uses text-based fictional stories, comic book techniques, and sometimes video to convey a public health message.

PUBLIC SERVICE ANNOUNCEMENT (PSA). A short message this typically is targeted to a specific audience and designed to increase knowledge and awareness, change attitudes, or encourage a specific behavior. These generally issue a specific call to action at the end. Some media outlets donate airtime or print space for PSAs, but media exposure for PSAs can also be purchased.

SOCIAL MARKETING. An approach that applies commercial marketing strategies (including multiple promotion techniques, strategic placement and pricing of the product, and persuasive messages) to achieve behavioral change that benefits society.

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