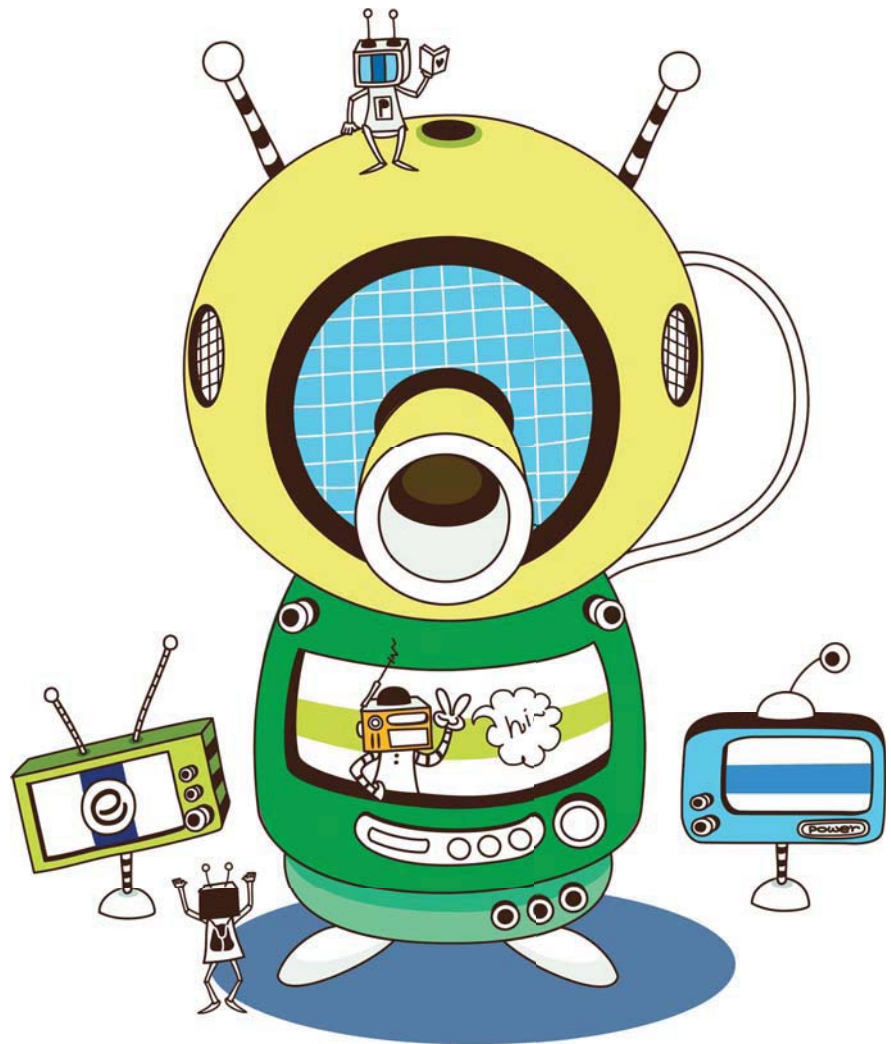


INTRODUCTION: THE MEDIA AS SEX EDUCATORS FOR YOUTH

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. Gorman 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.”); (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, 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 Asso-

ciation 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.



REFERENCES

1. **Strasburger, V.C., Wilson, B.J., & Jordan, A.B.** (2009). *Children, adolescents, and the media* (2nd Ed.). Los Angeles, CA: Sage.
2. **Brown, J.D.** (in press). Media and sexuality. In R. Nabi & M. B. Oliver (Eds.) *The Sage handbook of mass media effects*. Thousand Oaks, CA: Sage.
3. **Stern, S. & Brown, J.D.** (2008). From twin beds to sex at your fingertips: Teen sexuality in movies, music, television and the Internet. In P. Jamieson & D. Romer (Eds.). *The changing portrayal of adolescents in the media since 1950* (pp.313-346). NY: Oxford University Press.
4. **Livingstone, S.** (2002). *Young people and new media*. London: Sage.
5. **Roberts, D.F. & Foehr, U.G.** (2004). *Kids and media in America*. Cambridge: Cambridge University Press.
6. **Pardun, C.J., L'Engle, K., & Brown, J.D.** (2005). Linking exposure to outcomes: Early adolescents' consumption of sexual content in six media. *Mass Communication and Society*, 8(2), 75-91.
7. **United Nations Statistics Division.** (2004). *Demographic Yearbook 2004*. New York: United Nations.
8. **Finer, L.B. & Henshaw, S.** (2006). Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspectives on Sexual and Reproductive Health*, 38(2): 90-96.
9. **Forhan, S.E.** (2008). *Prevalence of Sexually Transmitted Infections and Bacterial Vaginosis among female adolescents in the United States: Data from the National Health and Nutrition Examination Survey (NHANES) 2003-2004* [Presentation]. 2008 National STD Prevention Conference.
10. **Hust, S., Brown, J.D., & L'Engle, K.** (2008). Boys will be boys and girls better be prepared: An analysis of the rare sexual health messages in young adolescents' media. *Mass Communication and Society*, 11:1-21.
11. **Brandt, A.M.** (1985). *No magic bullet: A social history of venereal disease in the United States*. Oxford University Press.
12. **Bauer, R.** (1964). The obstinate audience: The influence process from the point of view of social communication. *The American Psychologist*, 19(3): 319-328.
13. **Rogers, E.M. & Storey, J.D.** (1987). Communication campaigns. In C. R. Berger & S. H. Chaffee (Eds.), *Handbook of communication science* (pp. 817-846). London: Sage.
14. **Bandura, A.** (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
15. **Snyder, L.B. & Hamilton, M.A.** (2002). A meta-analysis of U.S. health campaign effects on behavior: Emphasize enforcement, exposure and new information, and beware the secular trend. In R. C. Hornik (ed.) *Public health communication: Evidence for behavior change* (pp. 357-384). Mahwah, NJ: Lawrence Erlbaum.
16. **Derzon, J.H. & Lipsey, M.W.** (2002). A meta-analysis of the effectiveness of mass communication for changing substance use knowledge, attitudes and behavior. In W. D. Crano & M. Burgoon (Eds.), *Mass media and drug prevention: Classic and contemporary theories and research* (pp. 231-258). Mahwah, NJ: Lawrence Erlbaum.
17. **Farrelly, M., Davis, K.C., Haviland, M.L., Heaton, C.G., & Messeri, P.** (2005). Evidence of a dose-response relationship between "truth" antismoking ads and youth smoking prevalence. *American Journal of Public Health*, 95(3), 425-431.
18. **Hornik, R.C.** (Ed.) (2002). *Public health communication: Evidence for behavior change*. Mahwah, NJ: Lawrence Erlbaum Associates.
19. **Flora, J., Maccoby, N., & Farquhar, J.W.** (1989). Communication campaigns to prevent cardiovascular disease: The Stanford community studies. In R.E. Rice & C.K. Atkin (Eds.), *Public communication campaigns* (2nd ed., pp. 233-252). Newbury Park, CA: Sage.
20. **Perloff, R.M.** (2003). *The dynamics of persuasion: Communication and attitudes in the 21st century*, (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.
21. **Randolph, W. & Viswanath, K.** (2004). Lessons learned from public health mass media campaigns: Marketing health in a crowded media world. *Annual Review of Public Health*, 25, 419-437.
22. **Salmon, C.T. & Atkin, C.** (2003). Using media campaigns for health promotion. In T. L. Thompson, A. M. Dorsey, K. I. Miller, & R. Parrott (Eds.), *Handbook of health communication* (pp. 285-313). Mahwah, NJ: Lawrence Erlbaum.
23. **Noar, S.**, (2006). A 10-year retrospective of research in health mass media campaigns; Where do we go from here? *Journal of Health Communication*, 11, 21-42.
24. **Janz, N.K., Champion, V.L., & Strecher, V.J.** (2002). The Health Belief Model. In K. Glanz, B.K. Rimer, F.M. Lewis (Eds.), *Health behavior and health education: Theory, research and practice* (3rd Ed.) (pp. 45-66). San Francisco: Jossey-Bass.

25. **Montano, D.E. & Kasprzyk, D.** (2002). The Theory of Reasoned Action and the Theory of Planned Behavior. In K. Glanz, B.K. Rimer, F.M. Lewis (Eds.), *Health behavior and health education: Theory, research and practice* (3rd Ed.) (pp. 45-66). San Francisco: Jossey-Bass.
26. **Salem, R.M., Bernstein, J., Sullivan, T.M., & Lande, R.** (2008). Communication for better health. *Population Reports*, Series J, No. 56. Baltimore: INFO Project, Johns Hopkins Bloomberg School of Public Health.
27. **Prochaska, J.O., Redding, C.A., & Evers, K.E.** (2002). The Transtheoretical Model and stages of change. In K. Glanz, B.K. Rimer, F.M. Lewis (Eds.), *Health behavior and health education: Theory, research and practice* (3rd Ed.) (pp. 99-120). San Francisco: Jossey-Bass.
28. **Oldenburg, B. & Parcel, G.S.** (2002). Diffusion of innovations. In K. Glanz, B.K. Rimer, F.M. Lewis (Eds.), *Health behavior and health education: Theory, research and practice* (3rd Ed.) (pp. 312-334). San Francisco: Jossey-Bass.
29. **Stadler, J. & Hlongwa, L.** (2002). Monitoring and evaluation of loveLife's AIDS prevention and advocacy activities in South Africa, 1999-2001. *Evaluation and Program Planning* 25(4):365-376.
30. **O'Keefe, D.J.** (2002). *Persuasion theory & research*. Thousand Oaks, CA: Sage.
31. **Bessinger R., Katende C., & Gupta, N.** (2007). Multi-media campaign exposure effects on knowledge and use of condoms for STI and HIV/AIDS prevention in Uganda. *Evaluation and Program Planning*, 27(4):397-407.
32. **Underwood, C., Hachonda, H., Serlemitsos, E., & Bharath-Kumar, U.** (2006). Reducing the risk of HIV transmission among adolescents in Zambia: Psychosocial and behavioral correlates of viewing a risk-reduction media campaign. *Journal of Adolescent Health*, 38(1):55.
33. **Witte, K., Meyer, G., & Martell, D.** (2001). *Effective health risk messages: A theoretically-based, step-by-step, how-to guide on developing persuasive communications that work*. Newbury Park, CA: Sage.
34. **Horner, J.R., Romer, D., Venable, P.A., Salazar, L.F., Carey, M.P., Juzang, I., Fortune, T., DiClemente, R., & Farber, N.** (2008). Using culture-centered qualitative formative research to design broadcast messages for HIV prevention for African American adolescents. *Journal of Health Communication*, 13:309-325.
35. **Austin E.A., & Johnson K.** (1997). Effects of general and alcohol-specific media literacy training on children's decision making about alcohol. *Journal of Health Communication*, 2, 17-42.
36. **Primack, B.A., Gold, M.A., Land, S.R., and Fine, M.J.** (2006). Association of cigarette smoking and media literacy about smoking among adolescents. *Journal of Adolescent Health*, 39(4), 465-472.

