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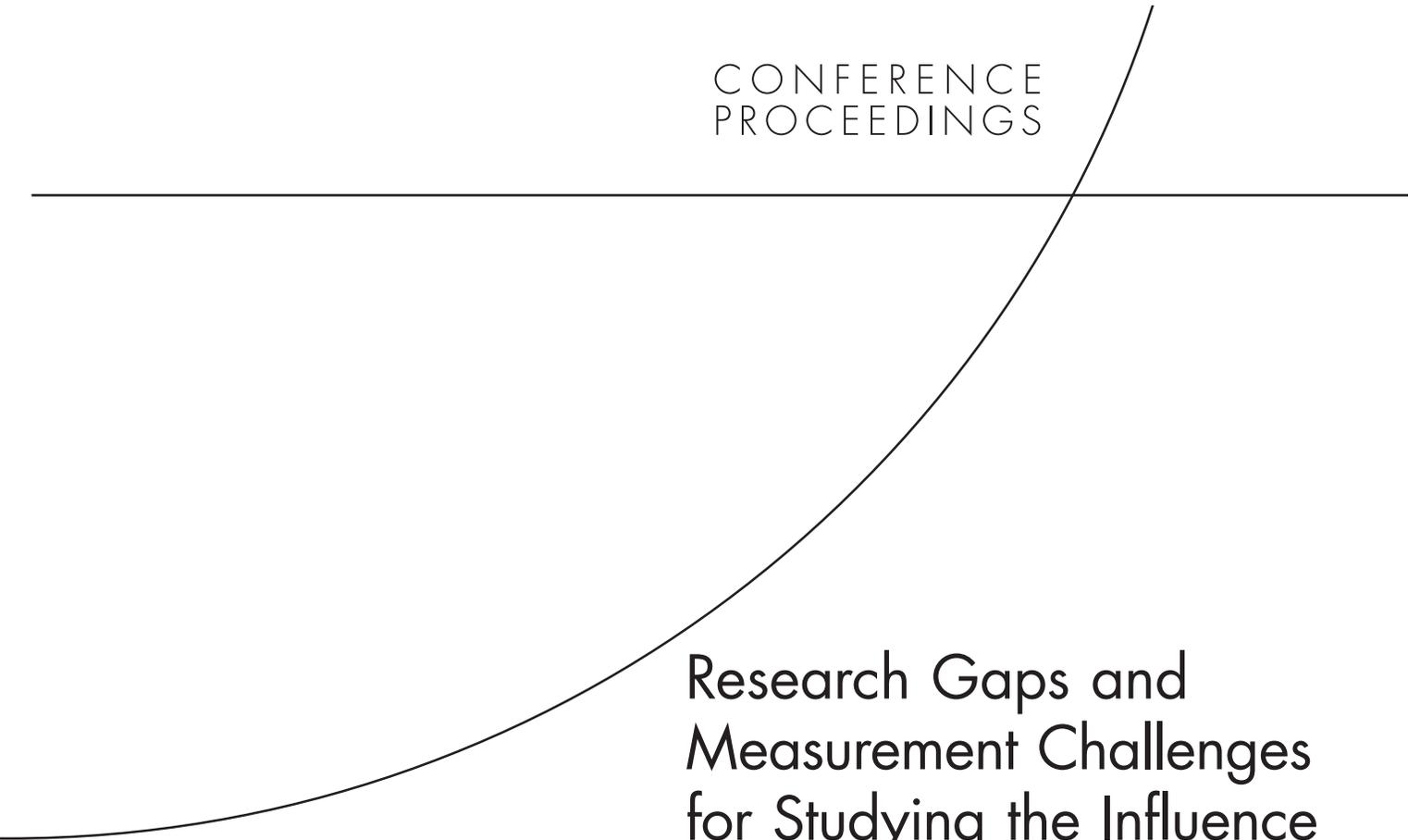View document details

Research Gaps and Measurement Challenges for Studying the Influence of New Media on Adolescent Sexual Health

Steven Martino, Rebecca L. Collins, Rebecca Shaw

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Preface

The expert panel meetings summarized in this document were conducted under contract HSP23320095649WC, Task Order No. HHSP23337005T, with the Administration for Children and Families (ACF) and the Office of the Assistant Secretary for Planning and Evaluation (ASPE) within the U.S. Department of Health and Human Services. The goal of the task order is to develop a working knowledge base about the use of new media (such as the Internet, social networking sites, cell phones, online video games, and MP3 players) among adolescents and the potential impact on their sexual health and to identify appropriate measures for assessing this use, thus setting the stage for future research and intervention.

On March 2, 2011, an expert panel was convened at the RAND Corporation offices in Arlington, Virginia. Follow-up telephone conferences were held with panelists on April 6, 2011, and April 11, 2011. The panel consisted of 15 individuals—three from RAND and twelve from other institutions (see the list of panelists at the end of the document). Their combined expertise encompasses the areas of media use and its measurement (particularly new media), adolescent sexual health, and media effects on adolescent health. Panelists included experts in the use of new media in sexual health interventions, as well as in identifying and testing the unintended effects of exposure to new media on sexual health. Additional experts, representatives of various government agencies and stakeholders, attended the March 2 meeting and participated in the discussion.

The meeting summary contained herein summarizes the discussion during that in-person meeting and two follow-up conference calls. We have focused this summary on areas where there was consensus expressed among panelists, but readers should not assume that all panelists endorsed all of the ideas and conclusions presented here. The intended audiences for this meeting summary are policymakers, research funders, public health professionals, researchers studying adolescent sexual health and media use, and program developers.

This research was conducted in RAND Health, a division of the RAND Corporation. A profile of RAND Health, abstracts of its publications, and ordering information can be found at www.rand.org/health.

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The goals of the meeting were (1) to identify gaps and priorities for future research in the area of new media use and its links to adolescent sexual health and (2) to discuss measurement and design issues with an eye to the development of valid and reliable measures of adolescent new media use that might be helpful in the study and promotion of adolescent sexual health. The panel's discussion can be roughly categorized into two overarching topics: theoretical issues and measurement challenges. Below, we summarize the points raised and conclusions or suggestions made by panelists in each of these areas in turn beginning with the topic of theory. The main points of discussion are numbered and shown in bold. Each of these points is followed by a brief synopsis of the conversation that took place surrounding it (the text that is not in boldface type). The numbered sections then end with the final conclusion reached by the panel on a particular topic or point, shown in bold.

Theoretical Approaches to the Study of New Media and Adolescent Health

1. We need to understand what is new about "new media" and what we mean by this term.

There is an urgent need for the field to define the distinct features of new technologies and applications that are of greatest theoretical and practical interest. We agreed that "new media" is an insufficient term for describing the vast array of technologies, applications, and activities in which we are interested. This term is likely to become outdated quickly, and reliance on this term keeps us from carefully considering both the ways in which youth use digital media and the features of new technologies and applications that may drive their effects on sexual development.

The key features of new media that distinguish them from old (vintage) media are that they are social, interactive, malleable, and portable (mobile). The implications of these differences in terms of the effects new media might have on youth sexual behavior and health have yet to be examined by research.

2. Although there are similarities between online and offline life, there are also key differences that limit the usefulness of existing theories.

We acknowledged that existing theories for understanding such processes as peer influence, self-presentation, and relationship formation are somewhat suitable for understanding new media processes of interest. We also agreed that there are important ways in which these processes unfold differently online compared with offline. For example, we discussed how interacting with friends, relationship partners, and health professionals around the topics of sex and sexuality through instant messaging and blogs is likely to be different from interacting in person because of the social distance that media afford. That is, people may feel more comfortable talking about sensitive topics and express themselves more freely. On the one hand, this social distance may thus lead to frank and helpful discussions of sexual health issues. On the other hand, it may lead to inappropriate or ill-advised disclosure of intimate information or feelings (as in some cases of sexting) or to sexually aggressive or hostile interactions such as those evidenced by cyberbullying. We also talked about how the anonymity that the Internet affords can lead people to say things that they otherwise would not say. Finally, we talked about how online efforts to

negotiate one's identity or reputation may be different and have different consequences from the same sort of efforts made offline. Important aspects of new media that may alter the experience of social interaction and the distribution of information are that (1) its use affords psychological distance, (2) communication often happens asynchronously, (3) digital material can be edited and reproduced, (4) a record of communication and interaction persists, and (5) interaction through the Internet is highly public. The portability of new media has at least two implications: Youth can be connected almost continuously ("anytime" access), and youth interact with media in newer and more varied contexts ("anywhere" access). Anytime access means that youth may consume more of new media than traditional media and do so in response to the situations that come up in their daily lives. A youth might access the Internet to answer a question of immediate importance, such as the closest place to purchase a condom or get an STD test. Anywhere access encourages much more media multitasking than was possible with traditional media. This means that youth may be more (or less) affected by media content because their attention is also focused on other activities, such as shopping, or other media. New or revised theories need to take these aspects of portability into account, since they may moderate the effects of media exposure and media-based sexual health intervention on youth sexual health outcomes.

Although many of these aspects of new media and their potential effects on behavior can be derived from existing theories of behavior outside the media realm (for example, psychology or public health), the panel felt that most such theories were either too broad to provide these kinds of specific predictions (for example, the Theory of Reasoned Action) or were too specific to account for the variety of predictions that could be made regarding new media (for example, theories of social distancing).

Existing theories from the fields of psychology, public health, and communication are useful in understanding new media effects but need to be integrated and expanded to more fully capture new media processes and better predict and explain effects.

3. Little research or theorizing has been done to understand the significance of how youth process others' reactions to media content (e.g., on video-sharing sites, social networking sites, and blogs).

This is related to the preceding point but is more specifically focused on how the effects of media content (e.g., a video on YouTube) may depend on the type of reactions to it that appear online (e.g., the comments and "likes/dislikes" that appear below the video on YouTube). Social interaction surrounding media is referred to in the communications field as "social mediation." It is has been found to alter the effects of exposure to media content. Social mediation of media effects happens with traditional media as well but typically among a small group of known others (e.g., parents, close friends). Moreover, whereas traditional media content is meant to be consumed as is, user-generated new media often call for response and manipulation by users. That is, the user response is as much a part of the media as the original content itself. This feature of new media likely amplifies the importance of peers in mediating the effects of exposure to media content.

New media theories must account for the heightened role of social mediation in new media.

Measurement

4. Existing measures of media use are inadequate for understanding the effects of new media because they do not capture the interactive and dynamic aspects of new media.

Our measures of new media use tend to provide a single snapshot of media use, which may be insufficient for understanding the effects of dynamic and interactive processes. Some studies look at the effects of experimental exposure to one episode of a television show versus another. Others look at, for example, associations between the sexual content seen during a television season and subsequent initiation of intercourse. One of the latter studies asked youth to report on the programs they watched and then content-coded these programs to count the number of scenes with sexual content in them. Tests were conducted to see if researchers could differentiate the later sexual behavior of youth based on the number of sex scenes in the content they watched. The content of programs already aired cannot change—the measure used in this study was thus a "snapshot" of the past but was adequate to answer the question of how television content might influence youth. In contrast, the content of online and other new media *can* change and can do so in response to others' feedback. For example, the panel talked about how a person may make a statement on Facebook or post a picture there to see what type of reaction it gets and then modify subsequent self-presentations based on that reaction. The panel also talked about how media are sometimes created by youth and then manipulated (e.g., reproduced or commented upon) by others over time. A picture that originally depicted a casual kiss might be altered to make it appear that more sexualized behavior took place. Thus, to understand the effects of the media, it is important to understand how these media evolve and to collect multiple assessments of them over time.

Measures of new media must capture the dynamism and interactive nature of media as currently experienced by youth.

5. Survey questions about use of new technologies and applications may not always be interpreted by youth in a way that is consistent with the intent of researchers.

We wondered whether a question about exposure to sexual content might be interpreted by youth more narrowly than we intend. In particular, we wondered whether youth would consider content that they generate or read (e.g., comments left on Facebook walls, comments they read on YouTube) as media content and think about it when responding to a question about sexual content. The panel agreed that such comments would be sexual content and youth should include them in responding to questions about exposure. We also talked about the tension between wanting to create questions that refer to general phenomena and activities and the need to cite specific examples to make the questions concrete. For example, we talked about the problems involved in using the term "microblogging site" to ask about such applications as Twitter. Many youth may not understand the term "microblogging" or realize that Twitter is an example of it. We also discussed how some youth responded with "YouTube" and some adults responded with "Twitter" when asked on recent Pew Internet and American Life surveys to list the social networking sites on which they had profiles. Finally, we talked about how some youth interpreted a question about use of the Internet to get information about sexual health to mean accessing sexual content more broadly online.

In posing questions about new media use, it may be necessary to both refer to the general phenomenon and give specific examples (e.g., refer to "microblogging sites such as

Twitter"). The wording of these questions may need to change as the technologies and their use change.

6. In designing surveys, questions about media use should be framed in terms of content and applications rather than platforms or devices unless hypotheses are platform- or device-related.

The lines between a device, a platform, and an application are somewhat fuzzy as these terms are commonly used. For example, "television" does not refer to a medium or to the content of the medium, but rather, to a device (platform) used to watch screen media. Historically, research questions were posed about the effects of television on youth behavior. At the time, television programming could be viewed only on a television set, and the programming offered was fairly uniform in content. As a result, researchers could ask a survey question of youth such as how much time they spent watching television (a platform question) and predict behaviors such as aggression from the responses they got. Today, televisions air "movies" as well as programming designed specifically for the television platform, and the content offered on televisions is extremely diverse. Moreover, "television" content can be watched on computers, cell phones, and other handheld devices. Thus, a survey question about the amount of time spent watching television might be hard for a study participant to understand. The respondent might wonder whether or not to include television programming watched on a computer, for example.

A media application, also known as application software or an "app," is computer software that allows a user to perform a specific task or tasks. Applications can be categorized in many ways, but some of the most common categories are social applications such as Facebook and Twitter, news and information applications, games, and shopping applications such as eBay. Application software is contrasted with system software, which manages and integrates a computer's capabilities but typically does not directly apply them in the performance of tasks.

Questions about use of media applications may be interpreted more easily by participants, and yield more useful data, than questions about platforms. As an example, we discussed the technology of text messaging, which used to be possible only through a cell phone but now is supported by a variety of platforms. We agreed that media content and applications are of primary research interest, and that it may therefore be simpler and more informative to leave platforms out of our survey items altogether. However, we agreed that we may sometimes have an interest in the effects of platforms that are independent of the effects of the content or mediated activity itself; in those cases, it would be important to incorporate platforms in our survey items.

Survey questions about media should be framed in terms of content (e.g., "How often do you see something sexually explicit online?") and applications (e.g., "In a typical day, how much time do you spend on a social networking site like Facebook or MySpace?") rather than platforms (e.g., "How much time do you spend using a computer?") unless hypotheses are platform-related.

7. From a measurement standpoint, it may sometimes be useful to focus on the purposes of youths' media activities rather than on the specific platforms or applications they use.

We identified several purposes that may underlie youths' new media use—including communication, entertainment, information-gathering, persuasion, and self-presentation—and considered whether asking about these purposes of use may sometimes be more useful than

questions about the amount or type of use of specific platforms and applications. An argument in favor of this approach is that even though the technologies are likely to shift—and sometimes shift rapidly—the purposes for which youth use mediating technologies are likely to remain fairly constant. Although this approach may work for addressing certain hypotheses, however, it is unlikely to work as a universal approach for answering questions about new media use. Moreover, there is some concern that youth may not always have insight into the purpose or purposes of their media use and so would not be able to provide reliable answers to questions framed in this way.

Researchers should consider whether organizing measures by the purpose of use rather than the amount or type of use would address their hypotheses.

8. There are compelling reasons to measure exposure to sexual content from the user's perspective; however, there are also some important potential drawbacks to this approach.

We discussed the need to analyze the content of a website such as YouTube to get a sense of how much sexual content it contains. The point was made that the scope of YouTube is so vast that it would be impossible to link a measure of content to any particular individual. It was suggested that a researcher could simply ask a child to self-report the amount of sexual content to which he or she was exposed on YouTube recently (e.g., in the past 24 hours). Two panelists discussed independent efforts to validate self-reported measures of exposure to sexual content in which they found that simple self-reported measures were as predictive of changes in sexual behavior as were more elaborate measures based on rigorous content analyses. A counterpoint was made, however, about how such a self-reported measure would not capture "background" exposures to which the youth paid little attention. This background exposure is important to the extent that exposure that occurs outside awareness or under conditions of low attention has implications for decision-making and behavior. The point was also made that asking youth to self-report exposure to sexual content requires the assumption that respondents' definitions of sexual content match our definition. Content that is not overtly sexual (e.g., sexually suggestive behavior such as physical flirting, or talk about sexuality) but that still conveys important messages about sexuality may not be considered by teens as sexual content.

Self-reported exposure to sexual content may be sufficient but further evidence is needed to validate such measures.

9. Retrospective self-reported measures of media use and exposure to sexual content are valuable tools but have critical limitations.

We discussed the limitations of retrospective self-report measures of media use and exposure to sexual content and agreed that more elaborate measures (e.g., daily diaries, ecological momentary assessment, online tracking software, analysis of transcripts from online interactions, Nielsen's People Meter Technology) may sometimes be necessary for capturing uses and exposures of which youth are less than fully aware or to which youth may not be inclined to admit or be able to accurately report.

Methods other than retrospective self-reporting may be necessary for capturing media use or exposure to sexual content that the researcher or the respondent may not be aware of or exposures that youth may be embarrassed to admit.

10. Some key ethical issues arise specific to the study of youths' online behavior. These include the issues of respondent age and consent and what is allowed, given user agreements on each site.

When youth participants are recruited online, it may be difficult to determine whom one is enrolling in a study and to obtain their consent. We noted that consent is not always necessary, since much of what is posted online is considered public behavior. However, we noted that not all sites permit users to "scrape" data from other users (to directly download the information shown rather than taking notes about it). A number of available resources were discussed to help researchers with these issues. They include a recent book by Sheana Bull (with Mary McFarlane, *Technology Based Health Promotion*, Thousand Oaks, Calif.: Sage, 2011), the Association of Internet Researchers ethics website (http://internetresearchethics.org/) and presentations by a panel convened by the Secretary's Advisory Committee on Human Research Protections (available at http://www.hhs.gov/ohrp/sachrp/mtgings/mtg07-10/present.html).

Some ethical issues unique to new media, as well as some resources available to assist with these issues, should be carefully considered.

11. Experimental research (in the laboratory, as part of an online survey or a "directed viewing" study) may be a better method of answering fine-grained questions regarding the effects of sexual media content than correlational studies.

Panelists noted that experimental laboratory-based studies are better able to test the effects of specific forms of sexual content (for example, sexual content depicting negative versus positive consequences). Naturally occurring content may not provide sufficient examples of such material to test the correlates of exposure using survey methods. Online experiments might involve showing online youth specific content and surveying them (via the web) immediately after exposure, or participants' online behavior post-exposure might be assessed (e.g., commenting on the material, clicking through to additional information, revisiting the site).

Experimental methods provide an important complement to correlational approaches to testing the effects of new media use on adolescent sexual health.

12. We discussed whether a small set of key questions about media use exists that could be usefully included on large multipurpose national surveys.

There are sometimes opportunities to include a small set of questions about media on large, national surveys of youth, such as the National Children's Study or surveys primarily designed to address other questions. Ideas about these questions included ones to identify heavy media use, the technology or application that youth engage with most often, the intensity of their engagement with that technology or application, a broad question about exposure to sexual content, a more specific question about exposure to sexually explicit material, and a question about online sexual harassment. The panel agreed, however, that this list has important limitations (see items 4, 6, 8, and 9, above, regarding these issues, including swift changes in media applications and recall errors and biases).

It is a high priority to begin including a set of key questions about new media use on large, national surveys. An interim set should be developed, but formative research to refine and validate such measures is imperative.

13. Interactive electronic game-playing is an understudied topic in new media research that is worthy of attention.

The implications of interactive electronic game-playing (e.g., networked console gaming, massive multiplayer online gaming) for sexual development and behavior have rarely been considered. Many youth now engage in networked console gaming and massive multiplayer online gaming with headsets and voice-over technology. These games are often played with people whom youth do not know or know only online and with whom they have no other connection. There is anecdotal evidence that during the course of this gaming, players often make sexist, racist, and other explicit and offensive comments that often have nothing to do with the game being played. There has been almost no research on these types of gaming, although they are played by a significant portion of youth.

Interactive game-playing is a popular online activity that may have important implications for sexual development and behavior; more research is needed to determine if there are areas of concern or opportunities for intervention.

14. The top priority area for new or continued new media research is social media, including but not limited to social networking sites, video-sharing and video-viewing sites.

Social media are the top priority for future research. Social media include many interactive game sites but also social networking sites and video-sharing and video-viewing sites such as YouTube. It may also include sites focused on live streaming video (such as USTREAM) and video chat enabled by web cams. Although there are a few existing studies addressing sexual content in social media, researchers are far from an understanding of the amount and types of sexual content to which youth are exposed through these media. Most important, there are strong reasons to expect that social media use might have different, probably stronger, effects on youth attitudes and behavior than traditional media use. Unlike traditional media, social media incorporate a variety of tools to support public or semi-public interactions between participants. These tools allow individuals to surround themselves instantly with the online representations of friends, acquaintances, and like-minded others, providing frequent opportunities for virtual socialization. Decades of research have highlighted the crucial role of adolescents' peers in the development of sexuality and identity. This role is likely to be amplified online as youth interact under the conditions that social media afford—e.g., social distance and the opportunity to reach a large audience easily. For example, a sexually inexperienced teen may post a sexual message on his or her social networking profile to appear mature or to make a joke. Once he or she observes his or her own actions, and particularly if other people's reactions reinforce the teen's sexualized behavior, the teen may shift to see him or herself as sexually mature or as a sexual object.

These key features of social media have not been tested to determine how they might increase or decrease the potential for media effects on sexual health. Research is needed that tests social media as a tool for improving adolescent sexual health. Research examining the unintended effects of social media use on youth sexual health is also a top priority.

Studies of the effects of social media are the top priority for research in the area of new media and adolescent sexual health.

Panelists

Outside Panelists

Jane Brown, PhD – University of North Carolina–Chapel Hill

Ralph DiClemente, PhD – Emory University

Amy Beth Jordan, PhD – University of Pennsylvania

Amanda Lenhart, MA – Pew Research Center

Deb Levine, MA – Internet Sexuality Information Services, Inc., Oakland, Calif.

Megan Moreno, MD, MSEd, MPH – University of Wisconsin–Madison

Seth Noar, PhD – University of Kentucky

Michael Rich, MD, MPH – Children's Hospital Boston

Vicky Rideout, MA – VJR Consulting, San Francisco, Calif.

Kaveri Subrahmanyam, PhD – California State University Los Angeles

Susan Tortolero, PhD – University of Texas

Monique Ward, PhD – University of Michigan

RAND Panelists and Presenters

Rebecca Collins, PhD

David Kanouse, PhD

Steven Martino, PhD