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Substance Abuse Prevention Message Generation: Engaging Adolescents in Health Message Planning and/or Production of Health Promotion Messages

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Summary and Keywords

Adolescent substance use remains a significant public health challenge, with recent approaches to address these problems including actively engaging adolescents in message planning and/or production as a prevention strategy. There are two benefits of this active involvement strategy. First, engaging adolescents in message planning or producing substance prevention messages is a form of participatory research that results in participant-generated messages for use in future intervention efforts. This participatory form of research is increasingly common in a wide range of topics and populations, particularly disenfranchised or stigmatized groups. It is important to focus on the second benefit of engaging adolescents in message planning and prevention: the effect of engaging in planning or producing substance prevention messages on the adolescents themselves. If done properly, the process of engaging adolescents in planning (or producing) anti-substance messages can provide longer-term benefits of delaying onset of substance use (strengthening resistance) as well as changing patterns for those already using. Some examples of this strategy exist with media literacy, although applied with a great deal of variability. The increased popularity of these planning/production approaches requires greater explication of how, when, and why they produce effects for participants. Two different theoretical perspectives address this active involvement intervention approach: narrative engagement theory and the theory of active involvement. Beyond these theories, sensation seeking is positioned as a moderator to explore for active involvement intervention effects.

Keywords: active involvement, adolescent health, engagement, media literacy, message planning, participatory research, risk taking, substance use, sensation seeking

Introduction: Participatory Approaches to Engaging Adolescents

One pressing question in prevention research is how to involve or engage participants in intervention programs. When these programs target adolescents, the challenge increases exponentially. Increasing use of message planning or production strategies for active engagement, especially with adolescents, can be applied across a wide range of topics. This entry begins by locating this research in the broader participatory research paradigm.

Participatory approaches employ research methodologies that focus on the significance and process of involving research participants as partners in the planning and conduct of the knowledge-production process (Bergold, 2007). As a consequence, the aims of such inquiry and research questions often develop iteratively in collaboration with the research participants (Bergold & Thomas, 2012). Participatory research relies, in part, on the self-reflective inquiry process that that researchers and participants assume to enable them not only to understand but also to improve upon the issues being researched (Minkler & Wallerstein, 2008). As Baum, MacDougall, and Smith (2006) explain, “the reflective process is directly linked to action, influenced by understanding of history, culture, and local context and embedded in social relationships” (p. 854). There is a great deal of variation in participatory strategies, but many of them incorporate these principles.

Heralded as a particularly useful strategy for vulnerable or marginalized groups, participatory approaches cross disciplines and focus on collectively examining issues and conditions that affect participant health and well-being while also encouraging respect for, and use of, multiple perspectives and methodologies. Such approaches that involve research participants in all facets of the research process begin with critical thinking and the exploration of the social circumstances related to research questions and use the knowledge gained to guide and invigorate collective change in communities, organizations, programs, and research participants themselves (Kroeker, 1996; Reason, 2001). The experience, expertise, and local knowledge of the research participants provides a non-academic voice of individuals who live and experience the research issue (Flores, 2008).

Involvement of youth for inspiration, guidance, and feedback on research issues and as research partners builds on well-established participatory research methods and creates opportunities not only for promoting youth development but also for understanding and improving the issues affecting young people’s lives (Powers & Tiffany, 2006). Recent

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decades have witnessed a burgeoning growth of participatory research interventions involving children and adolescents, in particular, as participants or targets. Much of this research and application has been done in the United States (Jacquez, Vaughn, & Wagner, 2013), with less focus on participatory research for children and adolescents internationally (McTaggart, 1997). These interventions, although utilizing participatory research methods, are categorized into different kinds of interventions: action research, community-based participatory research, community-partnered research, and active involvement research. For brevity purposes, we describe the first three kinds of intervention approaches under the same umbrella term of community-based research.

Community-Based Intervention Research

Community-based intervention research is an orientation to research that values the role of community members and academicians as equal partners, each contributing unique strengths to the research process (Israel, Schulz, Parker, & Becker, 1998). The hypotheses and research questions are developed in collaboration between researchers and community members at each step of the research process, from defining the research topic to disseminating results (Minkler & Wallerstein, 2008). Despite different methods used in community-based intervention research, the focus is on collaborative decision-making and involvement of research participants in the research process. Participation by adolescents in the research process can improve the quality of research because it can generate more authentic and reliable data and improve data interpretation because it involves those closest to the issues under investigation in the formulation of research questions and the strategies to answer them (O'Fallan, Tyson, & Dearry, 2000; McTaggart, 1997).

Community-based intervention research studies have engaged youth to address a number of topics primarily in the area of health and wellness such as safety and violence, obesity and diabetes, school environment, sexual health, mental health, and substance use (e.g., Christiansen, 2010; Jacquez et al., 2013; Makhoul, Alameddine, & Afifi, 2012; McCalman et al., 2013; Ozer, Ritterman, & Wanis, 2010; Veinot et al., 2006). A review of community-based intervention research involving adolescents and youth concluded that of the 399 articles describing youth involvement in research, only 15% (n = 56) partnered with youth in some phase of the research process. Although youth were most commonly involved in identifying research questions/priorities and in designing/conducting research, most youth-partnered projects included children or adolescents in several phases of the research process (Jacquez et al., 2013). For instance, an arts-based participatory research project called Visual Voices involves systematic creative writing, drawing, and painting activities to yield culturally relevant information which is generated by and examined

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with adolescents (Yonas, Burke, & Miller, 2013). Another, theater-based participatory research project used adolescent-developed healthy lifestyle messages to deliver information to low-income, urban, African Americans (Jackson, Mullis, & Hughes, 2010). A dominant theme for much of the published community-based research is to illustrate the methods used to engage youth in participatory research and evaluation, rather than on the findings from the research (Powers & Tiffany, 2006).

To address this critique, Powers and Tiffany (2006) provide a systematic rubric of analysis and descriptive examples of community-based intervention research with young people. This entry applies the same criteria and describes four different stages of youth involvement in community-based research, starting with idea and procedural development.

Idea and Procedural Development

Community-based intervention research can be evaluated according to the phase at which youth become involved in developing aims, research topics, research procedures, and instruments, respectively (see Costa et al., 2013; Greene, Ringwalt, & Iachan, 1997; Rotheram-Borus, 1991; Snider, Kirst, Abubakar, Ahmad, & Nathens, 2010; Suleiman, Soleimanpour, & London, 2006). For instance, in order to address the volume of violence-related youth admissions to emergency departments, Snider et al. (2010) engaged youth and other stakeholders in conceptualizing a hospital-based violence prevention intervention to identify outcomes relevant to the community. Of the 90 participants involved, approximately two-thirds were youth and were involved in surveys and small/large group discussions. Starting with concept mapping, small-group and large-group discussions, other issues related to youth violence prevention were rated as being of highest importance and included mentorship, the development of youth support groups in the hospital, training doctors and nurses to ask questions about the violent event, and treating youth with respect (Snider et al., 2010). In summary, this process of exploring deeper and more nuanced questions about social issues from participant perspectives allows for a methodological approach that is that is particularly appropriate to exploring and addressing adolescent needs and issues of concern (Ollner, 2010; Powers & Tiffany, 2006).

Readiness for Conducting Research

Community-based interventions can also be assessed based on the trainings required for adolescents participation, such as if the youth participants completed training on human subjects in research or completed other training in conducting research (see Coupland et al., 2005; Heckathorn, 1997, 2002; Heckathorn, Semaan, Broadhead, & Hughes, 2002; Percy-Smith, 2007; Salganik & Heckathorn, 2004; Veinot et al., 2006). For instance, a series of HIV prevention studies by Heckathorn and colleagues (Heckathorn, 1997, 2002; Heckathorn et

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al., 2002; Salganik & Heckathorn, 2004) used peer-based methods to recruit members of hidden and marginalized populations to join HIV prevention studies. The team recruited young people to work in groups to modify the research plan and questionnaire and to develop the educational session, thereby enhanced their familiarity with, and commitment to, the research process. These youth then launched a recruitment process where any youth who completed a survey and attended an educational session had the opportunity to recruit other young people to participate. Furthermore, two members of the pilot group took paid research positions and completed a human subjects tutorial, assured compliance with informed consent procedures, and addressed the unique confidentiality concerns involved in working in small, rural communities (Heckathorn et al., 2002). In summary, preparing youth to become a part of the conduct of research that is applicable to them utilizes youth as assets to be nurtured within communities and develops their potential to for civic engagement (Ollner, 2010; Powers & Tiffany, 2006).

Recruitment and Data Collection

Community-based interventions can also be assessed on recruitment and data collection, including assessment of youth involvement in beginning stages, recruiting adults to participate, surveying peers, surveying adults, debriefing about research process and progress, entering data, and/or analyzing data (see Flicker & Guta, 2008; Petrie, Fiorelli, & O'Donnell, 2006; Veinot et al., 2006). For instance, Flicker and colleagues (2004) initiated the Positive Youth Project that aimed to improve the health of youth infected and affected by HIV through the creation of youth friendly, accessible resources. A number of HIV+ youth were trained and involved in an advisory capacity to the project, while another group of HIV+ youth worked with academics and service providers on a working group to determine the research protocol. Data collection was done by the study coordinator (who was not an HIV+ youth), and the working group completed data analyses; results for this project were only included if they were arrived at by consensus (Flicker, 2008). In summary, involving youth in recruitment and data collection arguably improves the quality of research because study participants can feel more comfortable in answering questions when the youth researcher is a member of the same social group (Ollner, 2010; Powers & Tiffany, 2006).

Dissemination of Research Findings

Finally, community-based interventions can be assessed based on dissemination of research findings that includes the involvement of youth in interpretation of data, presentation of findings, writing of publications, and meeting with other youth researchers to share findings and experiences (see Petrie et al., 2006; Veinot et al., 2006; Yonas et al., 2013). For instance, Yonas et al. (2013) used an arts-based participatory method in studying adolescent health, safety, and violence issues. Participants included

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13 African American youth between the ages of 8 to 15 who lived in a publicly subsidized housing community and attended an after-school program. These youth were involved in data collection, conducting analyses, interpretation, and summary of the multi-media and traditional qualitative findings that informed the planning of three primary dissemination sessions. Finally, several pieces of the developed mural were exhibited in public venues where adolescent participants conducted discussions alongside the exhibits at the local hospital and public library for public dissemination (Yonas et al., 2013). In summary, participation of youth in data analyses and dissemination is proposed to improve data interpretation and the quality of research because it involves those closest to the issues under investigation helping to make sense of the findings and figuring out the best platform for disseminating findings to appropriate (and more of) populations (Ollner, 2010; Powers & Tiffany, 2006).

Active Involvement Intervention Research

One aspect of engaging adolescents in the research process has been to encourage or assign planning or production of prevention messages. For example, youth could plan public service announcements or posters for gun violence initiatives, HIV prevention targeting condom use, or substance prevention. In general, interventions that engage participants in planning or production have been labeled active involvement interventions, with criteria for such interventions articulated in Greene and Hecht (2013).

Active involvement intervention research follows principles of participatory design and creates opportunities for adolescents to experience a core feature of engagement that is common to these interventions, such as producing videos, posters, or radio ads (e.g., Hecht, Corman, & Miller-Rassulo, 1993; Holleran, Reeves, Dustman, & Marsiglia, 2002) or generating themes and images for messages such as posters (e.g., Banerjee & Greene, 2006, 2007, 2013A; Banerjee, Greene, Hecht, Magsamen-Conrad, & Elek, 2013; Banerjee, Greene, Magsamen-Conrad, Elek, & Hecht, 2015; Greene et al., 2015, IN PRESS). Active involvement intervention research does not include youth participation at all stages of research. Instead, it evaluates the process of having youth create media messages, sometimes with the assistance of or guidance of adults, for the purposes of propagating peer-developed and peer-relevant substance use prevention messages. Using these approaches with adolescents or children, in particular, requires adapting the project to ensure focus on appropriate prevention goals. For example, some risky sexual prevention topics might include content that is inappropriate for younger children. Most active involvement interventions utilize trained facilitators detailed instructions for message development and focus on prevention goals. Specifically, for substance use, adolescents could be directed to either (a) consider costs or risks associated with using e-cigarettes

or (b) consider alternatives to using e-cigarettes or the benefits of alternatives to not using substances. Some interventions include screening of developed messages to ensure that participants are focusing on risk avoidance; for instance, they would screen out an adolescent message focusing on the benefits of smoking marijuana. This may require additional resources beyond the facilitator training to monitor produced messages (such as posting on social media site) but may be necessary particularly with adolescents to avoid exposing others to pro-risk messages.

The process of creating one's own media messages (for instance, in the form of stories, documentaries, or news) can help students understand the entire process of media production (Kubey, 2000) and has been gaining momentum in other countries outside the United States where it is most prevalent currently. For instance, Media Clubs in schools is a government-led initiative to promote media literacy in India. Students who participate in media literacy clubs create their own media messages, in the form of videos, newspaper, report, or comics (see Media Club website). Similarly, the European Journalism Center has partnered with many countries in Europe to provide media literacy to school students (see European Journalism Center website). However, no published research to date has examined the efficacy of either Media Club's or European Journal Center's media literacy training on youth-related outcomes.

From a research perspective, the process of active involvement focuses on how participation in the activity triggers changes in participants. Active involvement interventions have shown promise in the adolescent risk-taking context (e.g., smoking prevention, alcohol use prevention, or drug use prevention) (Banerjee & Greene, 2006, 2007; Banerjee et al., 2015; Greene et al., 2015, IN PRESS; Hecht et al., 1993; Hecht & Miller-Day, 2010; Miller, Alberts, Hecht, Trost, & Krizek, 2000; Miller-Rassulo & Hecht, 1988), and one study to date utilized an active involvement intervention to actively engage older adults in fall prevention message planning (Catona, 2015). Thus, based on current research, active involvement interventions can be combined into two broad categories: interventions involving planning of health messages and interventions involving narrative message development.

Interventions Involving Planning of Health Messages

Some active involvement interventions focus on brainstorming as a key part of planning the message. In this approach, the perspective taking required to consider options for an effective prevention message is crucial to trigger effects in participants. Of note, this perspective does not necessarily require the steps to produce a prevention message with all the technical aspects of production execution. The process can plausibly engage participants by using a directed process to plan a message.

Planning of health promotion (or anti-risk) messages for peers focuses on a two-step process. The first step focuses on the development of participants' core understanding of key concepts of persuasion as utilized in the media-based message development process, which may include genre (specific kinds of media content, e.g., drama, comedy, situation comedy, talk shows, news, advertising, cartoons), narrative structure (traditional devices used to tell a story, including setting, character development, conflict, conflict resolution, and conclusion), sources (creator and disseminator of information including a person via a blog, organization through a website, or television channel), and encoding/decoding (messages are created, or " encoded," by media producers with a preferred meaning in mind, and then consumed, or " decoded," by a receiver or audience) (Masterman, 2001). The second step focuses on the development and application of a core understanding of the message production process of the media (if applicable), including visual effects (use of images to enhance a message), characters (human characters or cartoons in the message), setting (description of the backdrop of place where the message is situated), sound (use of voice, sound effects and music), and slogans (written words that communicate the essence of the message; Banerjee et al., 2013; Zettl, 1998).

This active involvement research paradigm historically was tested utilizing media literacy approaches, or through focusing the learned ability to access, analyze, evaluate, and communicate messages in a variety of different forms (Aufderheide & Firestone, 1993). Media literacy advocates critical analysis of various kinds of mass media messages to develop and evolve critical thinking skills that allow adolescents to examine messages and resist messages and pressures that promote harmful health behaviors (Hobbs, 1998; Pinkleton, Austin, Cohen, Chen, & Fitzgerald, 2008). Overall efficacy of media literacy programs currently includes analyses through two systematic reviews (Banerjee & Kubey, 2013; Bergsma & Carney, 2008) and a meta-analytic review (Jeong, Cho, & Hwang, 2012). The meta-analytic review concludes that media literacy interventions are generally effective ($d = .37$) for reducing potentially harmful effects of media messages on adolescents, but it also acknowledges the tremendous variability in intervention methods, methodological precision, and outcome measurement.

Part of the challenge in analyzing active involvement media literacy interventions is that the intervention components vary widely on features such as content and activities included as well as contact time (1–2 hours in one session versus semester or year-long interventions). One aspect that varies widely in these media literacy interventions is the engaging process, for example, whether participants plan a message or produce a full-fledged message such as a video with video crew and editing. The process of full production is rife for differential levels of participation, beyond the length of time and equipment required. To date, only one research team sought to isolate the active

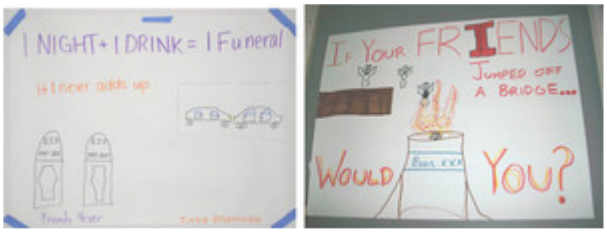
components required to account for active intervention effects, and that research is reviewed next.

Using media literacy, Banerjee and Greene (2006, 2007) developed an intervention curriculum for middle-school smoking prevention and implemented it in several classrooms across schools. The curriculum used media literacy as an approach to involve the middle-school students in analyzing and planning anti-smoking media messages. The analysis approach included a more traditional view of media literacy in which students were involved in analyzing and critiquing cigarette advertisements and anti-smoking advertisements and billboards. The planning approach involved students by first having them analyze and critique cigarette advertisements and then involved them in creating their own anti-smoking posters. In summary, these two components of the media literacy curriculum, i.e., analysis and planning, actively involved adolescents in critiquing both pro- and anti-smoking media messages by describing message features and content in detail and using media literacy principles to create student-produced anti-smoking print messages. In comparing the analysis versus planning components of the media literacy curriculum, Banerjee and Greene (2006, 2007) reported that planning anti-tobacco messages was more efficacious than the analysis strategy in changing smoking-related expectancies and intention.

Along similar lines, in 2011, Greene and colleagues developed, implemented, and tested an active involvement media literacy curriculum, *Youth Message Development* (YMD; Banerjee et al., 2015; Greene et al., 2015, IN PRESS) targeted at preventing high school student alcohol use. The YMD curriculum was developed to compare the efficacy of two strategies of media literacy training, analysis (critical analysis of pro- and anti-alcohol use media messages) and planning (development of a plan to create anti-alcohol media messages) in reducing high school alcohol use. The analysis strategy focuses on traditional prevention-based strategies such as lectures and discussion of media messages, whereas the message planning strategy presents itself as a more novel and creative and engaging approach because students are encouraged to create their own messages (Greene, 2013). Greene et al. (2015) reported that the planning of anti-alcohol messages was superior to the analysis of alcohol ads in decreasing alcohol use intentions and positive expectations about the effects of alcohol use. Figures 1 and 2 provide examples of anti–substance abuse poster messages created by participants targeting cigarette and alcohol use in the Banerjee and Greene (2006, 2007) study and the YMD study (Greene et al., 2015, IN PRESS).

Click to view larger

Figure 1. Sample Anti-Smoking Messages Generated by Adolescents



Click to view larger

Figure 2. Sample Anti-Alcohol Messages Generated by Adolescents

The most recent application of active involvement intervention research applies the process to preventing falls in older adults (Catona, 2015), and it has clear implications for use with adolescents around the issues of balance and exercise. Catona (2015) had older adults plan pro-strength and balance exercise messages for their peers. To identify the key mechanism of change, intervention components were tested individually, combined, and compared to a standard care group yielding a total of four intervention conditions: (1) idea generation (similar conceptually to analysis in media literacy), (2) message planning, (3) idea generation and message planning combined, and (4) standard care. Seventy-two adults age 65 and older were randomly assigned to one of four versions. This project measured motivation to process information (perceived novelty, perceived involvement, perceived gain, and reflectiveness), cognitions (perceived benefits, perceptions of norms, and readiness for change), behavior (strength and balance exercise-related stage progression and fall status), and interpersonal communication (talk about strength and balance exercise and intervention condition) to assess the effects of each version over time (pretest, immediate posttest, and 10 week delayed posttest). The results showed that the idea generation and message planning combined was more successful than the idea generation, message planning, and standard care in changing participants' perceived benefits, perceptions of norms, and strength- and balance exercise–related stage progression over time. Participants' frequency of discussion about the intervention topic and activity was greater for idea generation and message planning combined than the idea generation, message planning, and standard care.

Overall, the three studies clearly herald message planning as a key component of active involvement interventions, one step to identifying the key components required for active

involvement interventions. Benefits of focusing on the key message planning activity to engage adolescents in applying content in a creative way include being less resource- and time-intensive and having more potential for equal participation (individually or in groups). Further research in this area will facilitate the isolation of key processes required to adequately engage.

Interventions Involving Narrative Message Development

Interventions involving narrative message development use innovative methods to create health messages (Hecht et al., 1993; Hecht & Miller-Day, 2010; Holleran et al., 2002; Miller et al., 2000; Miller-Rassulo & Hecht, 1988). The rationale that evolved from this research line suggests that peer-created, culturally specific media messages for substance abuse prevention would be more effective than messages created by adults operating from a "so-called culturally-neutral" perspective (Holleran et al., 2002). The keepin' it REAL curriculum, a multicultural, school-based substance use prevention program for 12- to 14-year-old students implemented in 7th grade classrooms reaching more than 2 million youth each year (Hecht & Miller-Day, 2010), was founded on a "from kids–through kids–to kids approach" that relies on examination of youth narratives to inform the design of the intervention and message development. The development of the program involved learning directly from adolescents about their lives by collecting a set of stories (including the images, characters, and language surrounding these stories) about how adolescents view drugs and drug use, how they make substance use choices, and what can help influence healthy choices (Miller-Day & Hecht, 2013). These strategies, then, resonate with the target audience and provide insight into adolescent substance use and resistance experiences. The heightened youth identification with the program content simultaneously enhances the personal relevance of these messages to the message recipients (Hecht et al., 1993; Hecht & Miller-Day, 2010; Miller et al., 2000; Miller-Rassulo & Hecht, 1988).

In another example that describes the methods involved in narrative message development, Holleran et al. (2002) recruited high school students to be a part of the video production team developing youth-created videos, with the assistance of adults, for the purposes of propagating peer-developed culturally specific drug prevention messages. These adolescents were recruited from a media and communications magnet program at a large high school with a predominantly Mexican-American student population. The target audience of the video was Mexican-American. This core group was responsible for writing the script, casting, filming, music, sound, and directing. To help with production of the video message, an adult professional video director was hired to assist the students, and a teacher from the school also played a role as executive producer and instructor. The adult research team facilitated student group sessions and provided

information about existing research on drug prevention messaging and Mexican-American culture.

The active involvement approach to develop narrative messages for adolescents includes messages developed by the adolescents and for the adolescents. The level of engagement varies by project, as articulated in two contrasting theoretical approaches to active involvement interventions.

Theoretical Approaches to Active Involvement Interventions

Much of the research in active involvement interventions such as media literacy proliferated without adequate theoretical explanations for how and why change in participants could be expected. Two approaches published in 2013 provide frameworks to better understand the process of how active involvement approaches create change, including identifying core constructs for operationalization.

Two theoretical approaches describe how active involvement interventions function: the Narrative Engagement Framework (NEF; Miller-Day & Hecht, 2013) and the Theory of Active Involvement (TAI; Greene, 2013). Both theoretical approaches posit that participating in a “hands-on” activity (designing prevention message for peers or sharing a personal narrative that will be used by others) heightens engagement, with the messages created thereby producing changes in outcomes of interest (message processing, cognitions, behaviors, and interpersonal communication). These theories describe different mechanisms for how active involvement interventions ultimately create participant change.

Narrative Engagement Framework (NEF)

The NEF proposes that active involvement in development of narratives provides mental and behavioral models that not only connect with hard-to-reach audiences but also strengthen existing pro-social beliefs and behaviors and impede unhealthy ones (Miller-Day & Hecht, 2013). This narrative engagement is positively associated with identifying narrative knowledge, cognitive and behavioral modeling, engagement (interest, realism, identification), and social proliferation as the causal mechanisms for behavior change.

Narrative Knowledge

The active involvement of adolescents in creating messages that are peer-delivered and culturally relevant enhances participants' ability to identify commonalities among experiences and the capacity to link those common patterns with other salient factors to construct holistic mental models (Miller-Day & Hecht, 2013). In the drug prevention research by Hecht and colleagues, the term "mental model" is defined as the personal, internal representations of reality that adolescents use to generate expectations and guide decision-making as it relates to substances and substance use. In the case of adolescents in the target audience, they are typically young enough and least likely to have experimented with illicit substances and remain in the process of developing new mental models pertaining to substance use. Thus, providing new narrative knowledge will assist in instantiating resistance efficacy scripts that may last during adolescent years.

Modeling

Modeling refers to learning of new behaviors by observing others (Bandura, 2002). The NEF suggests that narrative messages provide effective behavioral models because they have the potential to engage audience members more thoroughly than didactic messages. Didactic messages provide models by talking about them, but narratives demonstrate how characters participate in situations to resolve problems through action and, therefore, engage participants in systematic processing of health messages (Moyer-Guse, 2008; Slater & Rouner, 2002). Thus, narratives have the ability to provide behavioral models for health behavior change that is more substantial and longer-lasting (Miller-Day & Hecht, 2013).

Engagement in NEF

Engaging an audience is one of the strongest factors that explain why narrative messages work (Green, Strange, & Brock, 2002; Hecht et al., 1993; Lee, Hecht, Miller-Day, & Elek, 2011; Miller, Hecht, & Stiff, 1998; Miller-Rassulo & Hecht, 1988). When compared to didactic/informational or statistical messages, narrative messages have shown greater influence on health attitudes and behaviors (e.g., Braverman, 2008; Dunlop, Wakefield, & Kashima, 2010; Greene & Brinn, 2003; Greene, Campo, & Banerjee, 2010). Narrative messages have the potential to involve audiences not only emotionally but also cognitively by shaping feelings and mental models. Therefore, engagement with narrative messages is a central concept for understanding message effects (Banerjee & Greene, 2012, 2013B; Lee et al., 2011; Roser, 1990; Slater & Rouner, 2002; Vorderer, 1993; Wirth, 2006).

Under the purview of the NEF, this engagement is described as consisting of four elements: interest (an interested message recipient will pay attention to the message), realism (involved message recipients will see themselves as connecting to the plot in the

message), identification (involved message recipients will see themselves as connecting to the characters in the message), and transportation (transported message recipients will sees themselves as paying attention and actively immersed or absorbed into the message or moved to some other reality or mind state) (Lee et al., 2011; Miller-Day & Hecht, 2013).

Social Proliferation

Finally, the NEF posits that narrative engagement causes social proliferation, defined as talk/discussion with peers, family, and other people in participants' social networks (Larkey & Hecht, 2010; Southwell & Yzer, 2007). When intervention participants talk about the messages, proliferation becomes an inherent part of the successful narrative process, and such interpersonal communication about the narrative messages may reinforce desirable behavior changes (Banerjee et al., 2015; Galavotti, Pappas-DeLuca, & Lansky, 2001; Hutchinson & Wheeler, 2006; Salmon, 2001).

Theory of Active Involvement (TAI)

The TAI (Greene, 2013) is grounded in cognitive information-processing theories such as social cognitive theory (self-persuasion and cognitive dissonance) and provides a plausible link and theoretical explanation between active involvement interventions and the effect(s) they have on target audiences. According to TAI, there are four phases of response that link exposure to the intervention with hypothesized cognitive and behavioral outcomes: engagement, immediate outcomes, reflection, and cognitions.

Engagement in TAI

For any active involvement intervention to be successful, participants must first process the intervention (Greene, 2013). However, before information can be processed, it must engage the audience, which occurs through the engagement components of arousal (defined as reaction to a stimulus that promotes information processing because people are motivated to respond to this arousing stimulus; Bryant & Zillmann, 1984) and involvement (defined as ego involvement or personal relevance; i.e., when people view the content of interventions as being personally relevant, the more motivated participants are able to process messages at greater depth; Petty & Cacioppo, 1986). In this view, engagement is a necessary but not sufficient condition for active involvement processing to produce desired effects. Active involvement approaches are designed to initially engage participants (through involvement and arousal); we turn now to the next part of the causal sequence proposed in the TAI.

Immediate Outcomes

The TAI posits that, after engagement successfully occurs (through arousal and then involvement), there is a higher probability of success of the intervention (or a stronger potential effect of the intervention). The most immediate outcomes are increased comprehension or knowledge (defined as what participants can recall and understand in relation to message or workshop activities/topic; Greene, 2013) and perspective-taking skills (defined as the ability to perceive someone else's thoughts, feelings, and motivations; Feffer, 1959) or critical thinking skills. After engagement with the intervention activities, the TAI proposes that individuals can begin to activate information procession via an increase in comprehension and internal evaluations via perspective-taking and critical thinking skills.

Reflection

According to the TAI, active involvement intervention gain in comprehension and perspective taking leads to self-reflection, whereby individuals carefully evaluate their own cognitions and behavior (Greene, 2013). These processes of reflection could include two stages: forethought (where individuals evaluate their purposive behavior including outcomes projected into the future, such as consequences of risk) and perceived discrepancy (internal struggle comparing perspectives raised in the intervention with participants' own perspectives and standards). The desired goal of active involvement interventions is not only to encourage participants to reflect on their own risky behaviors but also to consider behaviors that are lower-risk alternatives. Also, this reflection is posited to reinforce internal standards for preventive behavior leading to behavioral maintenance. This process must be activated to expect more than short-term gains in participant outcomes.

Cognitions

Cognitions leading to behavior change accounts for the last phase of active involvement intervention outcomes. According to TAI, the goal of intervention activities is to instill unfavorable risk expectance or perceptions of risk, identify normative influences and resist influence from peers and media, and consequently activate adolescents' intentions to consider and adopt lower-risk alternatives. Expectancy can be defined as a systematic "if-then" relationship between events in different situations and conditions (DeBenedittis & Holman, 2010); for instance, "if I drink beer, then I will develop a pot belly," or "If I drink beer, then I will have a great time at the party." Expectancies can be both negative and positive.

Moving beyond the content emphasis on expectancies, the TAI emphasizes that active involvement interventions can also target norms based on small group processes utilized. Participating in small group activities, listening to multiple perspectives on risk

behaviors, and planning anti-risk messages is posited to allow the participants to identify normative influences and resist peer and media influences. It may also be possible (see Catona, 2015, on idea generation) that participants evaluating alternatives can individually trigger similar processes, but this should be explored further with only one test isolating this intervention component (Catona, 2015). In summary, the fourth phase articulates how active involvement interventions help participants develop their own understanding of risk if behavior is continued, identify normative influences, and activate intentions for adopting lower-risk alternative behaviors (Greene, 2013).

There are at least two different target groups among youth for these active involvement interventions: (1) those with existing negative attitudes (and norms) regarding substances—for this group the prevention goal would be to reinforce these positions and slow the decay of such attitudes/norms and delay initiation and experimentation—and (2) adolescents already experimenting (or using) who may have less negative attitudes and norms toward substance use. This latter group must be addressed differently, perhaps through counter-attitudinal advocacy (CAA), and the target would be reconsideration of current beliefs and behavior. Either process or targeted group focuses on increasing mindful reflection of the intervention content and potentially self-reflection.

When engaged in CAA (for review, see Eagly & Chaiken, 1993; Festinger, 1957), people are typically required/encouraged to advocate for a position that is quite different from their own, and in this process attitudes may shift in the direction the person advocated for. Active involvement is different from CAA on two grounds: (1) active involvement interventions are typically framed as prevention interventions and offered to participants whose attitudes and behaviors are often prevention supportive (i.e., not induced compliance); (2) participants in active involvement interventions are given the freedom to choose to develop anti- or pro- substance use messages. As such, given that participants advocate for a position that is often aligned with what they believe in, active involvement framework for interventions is not the same as for CAA interventions. Future research should continue to focus on active involvement participants who are engaged in induced compliance to explore how active involvement interventions work for this group.

Sensation Seeking as a Moderator of Active Involvement Interventions

Despite the popularity of these approaches and emerging evidence of effects, the efficacy of active involvement interventions cannot be generalized across different groups of people. For example, it would be prudent to explore differences in effects for adolescents

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who are not using (continue current behavior) compared to effects for adolescents who are currently using at various levels (a behavior change target). One variable that has been consistently associated with adolescent health behaviors across time and health domains is sensation seeking. In the absence of empirical research examining moderators of active involvement interventions, past research will guide the rationale for examining sensation seeking as a likely moderator that affects the outcome of active involvement interventions.

Sensation seeking is a personality trait (Zuckerman, 1983) that increases during adolescence and then levels off by the mid- or late 20s; it regulates the tendency to seek varied, novel, and intense sensations and experiences (Zuckerman, 1979). These traits can be categorized into four dimensions: thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility (Zuckerman, Eysenck, & Eysenck, 1978). Adolescents high in sensation seeking tend to engage in behaviors that increase the amount of stimulation they experience. Satisfying a preference for stimulation can be accomplished through many behaviors such as occupational choice, recreation, sports, and social interactions (Roberti, 2004). Consistent empirical evidence has demonstrated that sensation seeking is positively associated with adolescent smoking (e.g., Banerjee & Greene, 2009; Frankenberger, 2004; Spillane et al., 2012; Zuckerman, Ball, & Black, 1990), alcohol use (see meta-analytic review by Hittner & Swickert, 2006), drug use (e.g., Gendaszek & Graff, 2002; Hornik et al., 2001; Yanovitzky, 2005), and other risky and delinquent health behaviors (e.g., Greene, Krcmar, Walters, Rubin, & Hale, 2000; Yanovitzky, 2005).

In order to develop efficacious health messages for adolescents, the activation model of information exposure (Donohew, Lorch, & Palmgreen, 1991) provides a compelling rationale and theoretical explanation for specific types of messages that would appeal to adolescents differing in levels of sensation seeking. The activation model suggests that attention is primarily a function of an individual's level of need for stimulation, and each individual has an optimal level of activation or arousal at which they are most comfortable. When individuals are exposed to an information situation, they have an expectation of achieving or maintaining the optimal activation stage. If individuals do not meet this optimal level when exposed to an information situation (or message), they are likely to turn away to find another source of stimulation to help them achieve their optimal level (Donohew et al., 1991). According to Zuckerman (1988):

> The high sensation seeker is receptive to novel stimuli: the low tends to reject them preferring the more familiar and less complex. The high sensation seeker's optimal level of stimulation may depend on the levels set by the characteristic

> level of arousal produced by novel stimuli. Anything producing lower arousal levels may be considered “boring.”
>
> (pp. 181–182)

Prior research in this area has documented that high sensation seekers react more strongly to novel stimuli (e.g., Morgan, Palmgreen, Stephenson, Hoyle, & Lorch, 2003; Stephenson, 2003; Stephenson & Palmgreen, 2001). For health promotion messages, high sensation seekers require stronger messages (including strong sound and visual effects) for attracting and holding their attention as compared to low sensation seekers (Donohew et al., 1991).

To date, no research has examined how adolescents varying in sensation seeking respond to active involvement interventions. However, prior research does propose that high sensation seekers would respond more favorably to interventions that are novel and stimulating as compared to low sensation seekers. It is reasonable to propose that engaging health messages or interventions using the “from kids–through kids–to kids approach” will be more stimulating for high sensation seekers as compared to a traditional didactic approach for providing health messages. Therefore, it appears that high sensation seekers (as compared to low sensation seekers) would report higher narrative knowledge, cognitive and behavioral modeling, engagement (interest, realism, identification), and social proliferation when exposed to interventions involving narrative message development; low sensation seekers (as compared to high sensation seekers), on the other hand, would report higher narrative knowledge, cognitive and behavioral modeling, engagement (interest, realism, identification), and social proliferation when exposed to interventions involving didactic message exposure or low-active-involvement messages. It is also possible, extending this argument, that sensation seeking may combine with prior substance use to change effects.

Similarly, for active involvement interventions that involve a critical examination of media messages (recall media literacy analysis) and application of learned persuasive and production techniques in planning health messages (recall media literacy planning), it appears that planning to create their own health message would be a more novel approach to health interventions and will harness stronger engagement, immediate outcomes, reflection, and cognitions from high sensation seekers as compared with low sensation seekers. Alternately, low sensation seekers may find the approach of planning health messages overstimulating but may respond well to analysis of health messages approach and report higher engagement, immediate outcomes, reflection, and cognitions.

In summary, given the robustness of research demonstrating positive associations between sensation seeking and health risk behaviors (Roberti, 2004), it is important to

examine sensation seeking as a moderator of active involvement intervention effects. This is an area where further research on sensation seeking, possibly in combination with other variables, would be fruitful to advance understanding of how active involvement interventions function.

Conclusion

Active involvement intervention strategies are a relatively newer advancement in adolescent substance use prevention research and include participatory approaches by engaging adolescents in message planning or producing substance prevention messages that result in participant-generated messages for use in future intervention efforts as well as benefits for participants. As these active involvement interventions become a more common strategy for intervention and campaign design, understanding and explaining the mechanisms underlying intervention effects will become more important. Two different theoretical perspectives offer explanatory mechanisms for active involvement intervention efficacy: the narrative engagement theory (Miller-Day & Hecht, 2013) and the theory of active involvement (Greene, 2013). These theories explain how, when, and why active involvement interventions produce effects for participants at the individual level. These effects may vary according to certain participant-related characteristics, with sensation seeking emerging as a putative moderator of active involvement intervention effectiveness. Active involvement interventions are clearly emerging as an exciting area of research with potential application to a wide range of adolescent risk-taking contexts (Greene, 2013).

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Additional Resources

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