Health Communication

The Theory of Active Involvement: Processes Underlying Interventions That Engage Adolescents in Message Planning and/or Production

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Adolescence is a time of increased risk taking, and recent intervention strategies have included adolescents planning or producing antirisk messages for their peers. Although these projects may generate enthusiasm, we know little about message planning or production as a strategy for changing adolescent decision-making and behavior. This article articulates the Theory of Active Involvement (TAI) to describe and explain the processes through which these active involvement interventions influence adolescents. TAI is based on social cognitive theory's notion of self-regulation and examines multiple perspective taking and activating the self-reflection processes. The theory specifically describes the process of cognitive changes experienced by participants in active involvement interventions. The sequence is conceptualized as starting when engagement with the intervention (arousal and involvement) produces skill and knowledge gains (immediate outcomes) that lead to reflection (perceived discrepancy) and then other cognitions (expectancies, norms, intentions), with the ultimate outcome being behavior change. Engaging the target audience in a process of self-reflection is conceptualized as the crucial ingredient for meaningful and sustainable change in cognitions and behavior. This article provides valuable insight into how active involvement strategies function and how to best design these interventions, particularly those targeting adolescents.

Adolescents are notoriously resistant to health education programs that attempt to persuade them to cease risky health behaviors or maintain healthier choices (e.g., Arnett, 1992). These program messages may be perceived as lacking credibility if they are seen as produced by adults (Campbell & Babrow, 2004) but also because they typically emphasize the distal outcomes of behavior (Jessor, Turbin, & Costa, 1998). At times, these messages cause reactance, including increased curiosity about risk behaviors and vulnerability that may result in iatrogenic or boomerang effects (e.g., Cho & Salmon, 2007). Not surprisingly, researchers and practitioners have renewed interest in alternative intervention formats that can more effectively reach this population. One increasingly popular approach in the prevention field seeks to actively involve adolescents in the planning or production of prevention messages. The intention of these interventions is to generate messages that resonate with adolescents, come across as credible, and emphasize key health outcomes.

One potential avenue to these engaging interventions is to have adolescents, themselves, generate the messages. This very activity can potentially act as an intervention in and of itself, one that is potentially more effective than alternative approaches. The goal of this article is to review active engagement intervention outcomes and propose a theory of active involvement (TAI) that can be used both in developing and evaluating interventions that influence health-related decisions and behaviors.

Active engagement interventions. A growing number of interventions use "hands on" approaches as a strategy of community-based participatory research (Horn, McCracken, Dino, & Brayboy, 2008) and/or cultural grounding (Hecht & Krieger, 2006; Horigian, Lage, & Szapocznik, 2006), or as a component of their prevention intervention (e.g., Banerjee & Greene, 2006; Greene, 2012; Slater & Rouner, 1996). Some of these message

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design opportunities include adolescents through production of videos or radio ads (e.g., Hecht, Corman, & Miller-Rassulo, 1993), while others focus on more preliminary planning activities where adolescents generate ideas for messages such as posters (e.g., Banerjee & Greene, 2006, 2007). As the strategy becomes more common the term "active involvement approach" has emerged to capture a core feature that is common to these interventions.

Although adolescents are increasingly involved in message design, little is known about the messages youth create (for exceptions see Banerjee, Greene, Hecht, Magsamen-Conrad, & Elek, 2013; Banerjee & Greene, 2012; Krieger et al., 2013) or the mechanism(s) by which the creation process influences the youth creating the messages. This article focuses on the use of active involvement interventions as a prevention strategy where the involving activity is the intervention, as distinguished from cases when the active engagement is part of the production of messages intended to be consumed by someone else.

This article has three main goals. First, it articulates a theory of change underlying these processes called the Theory of Active Involvement (TAI). TAI is a new cognitive theory grounded in experiential learning principles (Rogers & Freiberg, 1994) and incorporating reflection and perspective taking as key mechanisms rooted in the self-regulation component of social cognitive theory (Bandura, 1986). The TAI conceptualization is also consistent with research utilizing self-perception theory, cognitive dissonance, and education literature on active and experiential learning. Second, the article identifies the active components hypothesized to encourage antirisk behavior in the active involvement interventions that engage youth in message production or planning. Finally, the article concludes with recommendations for using active involvement as a broader intervention approach to address implications for research and practice.

THEORY OF ACTIVE INVOLVEMENT: MECHANISMS FOR CHANGE

The active involvement intervention literature requires more clarity about the causal process through which active involvement interventions influence target audience attitudes and behaviors (see Banerjee et al., 2013; Greene et al., 2012). Prior evaluations assess some outcomes of active involvement interventions but fail to provide explanations of *how* and *why* exposure influences participants. Therefore, active involvement intervention research could benefit from a more solid grounding in cognitive information-processing theories such as social cognitive theory (cf. self-persuasion and cognitive dissonance) as a plausible link and theoretical explanation between the active involvement interventions and the effect(s) that they have on target audiences.

The proposed TAI is grounded in Bandura's (1986) self-regulation component of social cognitive theory and provides a framework for identifying active involvement intervention components as well as the steps in the process of effects that are not articulated specifically in social cognitive theory.

Social cognitive theory. Most broadly, Bandura's (1986) social cognitive theory identifies both external and internal influences on individual behavior. According to this view, when exposed to external influences such as media and/or interpersonal messages endorsing risk taking, adolescents strive not only to adhere to preferences of others (*external* standards) but also are motivated and regulated by self-evaluation and *internal* standards. TAI focuses on how active involvement interventions activate and reinforce these internal influences. The internal components are proposed to generate longer lasting (and more personally tailored) influence on individual behavioral choices. In the proposed theory, practice with perspective taking, identifying others' points of view, and planning messages will be the key elements for change that are incorporated into active involvement interventions.

Following the logic of social cognitive theory and consistent with other research and theories, the TAI describes how variables such as arousal, involvement, comprehension, and perspective taking are important mediators of the intervention effect. Including measures of these proposed mediating variables in evaluations of active involvement interventions contributes to developing a more complete understanding of how interventions work and why they may prove unsuccessful (Greene et al., 2012). In this argument, variables such as engagement (arousal and involvement) are activated by the delivery mode (novel and involving because they are able to interact with peers and generate messages) and are precursors to the active component of the process (reflection creates perceived discrepancy), putting participants in the best mental state to benefit most from the intervention. Some prior research has generally been limited to measuring intervention perceptions such as liking[1] or content (such as knowledge), yet there are complex steps between intervention exposure and target behavioral outcomes. The TAI identifies salient mediators that can influence an intervention's success, and the model and components are articulated next (Figure 1).

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[1] Besides information processing and comprehension, cognitive processing has also been studied in understanding affective responses (Donohew, Finn, & Christ, 1988; Unnikrishnan & Bajpai, 1995), such as message liking or perceptions (see Banerjee & Greene, 2006; Greene & Brinn, 2003). The utility of measuring liking, however, is limited. It is possible to like a program or intervention but not have any activation of key components. For adolescents, for example, giving them pizza (or money) will likely increase liking without having an effect on the targeted processes.
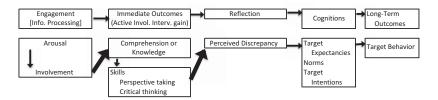
FIGURE 1 TAI conceptual model.

HYPOTHESIZED PROCESS OF COGNITIVE CHANGE

Drawing on social cognitive theory constructs, the TAI provides a credible account of the process by which an active involvement approaches can affect change. In general, active involvement intervention effects can be viewed as a series of responses linking exposure to the intervention with hypothesized cognitive and behavioral outcomes. According to this framework, there are four phases prior to behavior change (or reinforcement) that form the foundation of the process. First, an active involvement intervention must engage the participant in order to be processed, occurring through engagement components of arousal and involvement (see Greene et al., 2012, for proposed measurement). In the second phase of active involvement intervention gain, the initially activated arousal and involvement allow the participant to gain comprehension and knowledge (immediate outcomes) but also to acquire skills such as perspective taking and critical thinking. For the third phase, perspective taking skills gained from exposure to multiple perspectives generate reflection where participants compare their own perspective with perspectives shared by others. For the fourth phase, reflection leads to changes in cognitions (expectancies, norms, and intentions). The first phase in this process is described next, engaging participants in the active involvement intervention.

Engagement

To be successful, participants must process an intervention. Several possible initial responses to active engagement interventions have been identified, including engagement, comprehension, and evaluation (e.g., Anderson & Lorch, 1983; Cullingford, 1984; Gunter, 2000). Comprehension and subsequent retention occur only after gaining audience attention (see Bandura, 1986), as attention forms a necessary but not sufficient prerequisite for any resulting comprehension (Anderson & Lorch, 1983). Measures of attention have been previously utilized as a form of manipulation check but not as identified constructs forming part of the processes underlying intervention effects. In order for information to be processed it must first engage the audience or create conditions where participants process the intervention.

Arousal.   As part of engagement, TAI assumes an initial step of arousal followed closely by involvement (articulated fully in Greene et al., 2012). Arousal is defined broadly as a reaction to a stimulus and promotes information processing because people are motivated to respond to this arousing stimulus (Bryant & Zillmann, 1984). Arousal-inducing active involvement interventions should increase adolescents' motivation to process the information contained in these programs. From this perspective, novelty is one source of arousal (Bryant & Zillman, 1984; Christ & Biggers, 1984), and activities that adolescents perceive as different from regular school lessons, for example, will be most effective because they are viewed as more novel (and thus arousing). It is also by definition more engaging than just passively processing information like reading a textbook or brochure or listening to a "lecture."

One immediate goal of any intervention is to capture attention, and this can be increasingly difficult if interventions occur in school settings or are perceived as similar to normal school format, delivery, and content. Active involvement interventions that use message planning may be a more novel and creative way of teaching because students are encouraged to create their own messages, take perspective and reflect, and apply content. Novelty in active involvement interventions is generated jointly from two unexpected sources, planning and group activities. Novelty thus predicts attention, with age-appropriate novel material eliciting more attention from children as they are attracted to a new medium, information, or material (e.g., Singer, 1980; Wakshlag, Day, & Zillman, 1981). Note that the content of the active involvement interventions itself may not be novel, but the active involvement intervention component engagement is the novel piece. As a drawback, if the effect relies on novel content, then it will be difficult to transfer effects across contexts or expose adolescents multiple times using the same or multiple mechanisms. Generally, we expect that:

Proposition: Active involvement interventions will elicit more arousal (in the form of perceived novelty and reported attention) than nonactive involvement interventions.

Involvement.   After the arousal is produced but as part of the initial engaging phase, ego-involvement is another source of motivation or engagement in processing persuasive information (Petty, Cacioppo, & Goldman, 1981) and

increases the depth at which participants process the intervention. People are generally more motivated to process messages if they believe that the content of these messages is relevant to them personally (Petty & Cacioppo, 1981), and this is also consistent with self-perception (Bem, 1965), where an involved person might reflect "I am engaged, therefore I must like or support what we are doing." Three aspects of involvement are particularly relevant to the context of active involvement interventions (Greene et al., 2012): *personal interest* in the intervention topic (a form of engagement), perceived utility of the information to self (*perceived gain*), and *reflectiveness*, which is how the intervention encourages participants to think about their own experience and behavior (see social cognitive theory: Bandura, 1986). People will attend to information that reflects on them personally, and this information processing is a prerequisite for intervention success after initial arousal. This sequence has not been identified previously nor have the components been systematically measured.

Middle to late adolescents often are involved with risk behavior such as drinking, smoking, and smokeless tobacco in social settings, so the challenge is activating this involvement. This activation includes moving participants on a scale so that they are more open to messages and potential change, and this should work especially well for less involved adolescents. By engaging with the intervention activities (see novelty and attention as prerequisites), the audience is more motivated and involved. In this view, engagement (interest) will lead adolescents to be more involved in processing the interventions.

Proposition: Active involvement interventions will elicit more involvement (personal interest, perceived gain, and reflectiveness).

These arguments regarding the crucial role of engagement (arousal and involvement) in social cognitive theory are consistent with the education literature on active learning and experiential learning theory (ELT; Kolb, 1984) that focuses on actions or doing in combination with reflection or thoughts about what participants are doing. Active learning is a broad label encompassing a range of engaging instructional methods (see Prince, 2004). What is common among the active learning approaches is the focus on developing deeper understanding (rather than reciting facts, for example) and promoting thoughtful engagement. Bonwell and Eison (1991) conclude that active learning leads to better student attitudes and improved writing and thinking. This approach encourages engaging participants in the learning process, often by changing activities. Researchers have established that students have a maximum attention span of 15 minutes for lecture (Wankat, 2002), recommending shifting instructional activities and modes to maximally sustain engagement. These active learning engagement findings are consistent with experiential learning theory (ELT) or "the

process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 41). Based on this perspective that generated extensive research with learning styles, interventions should facilitate experiences to engage participants. The focus of ELT is on grasping and transforming experiences, and active involvement approaches are designed to initially engage participants (through involvement and arousal), and we turn next to the causal sequence proposed in the TAI.

Immediate Intervention Outcomes

After engagement successfully occurs (through arousal and then involvement), there is stronger potential effect of the intervention. After participants engage with the intervention through arousal and involvement, the most immediate outcomes or expected gains are increased comprehension or knowledge and skills. Comprehension and skills are conceptualized as occurring here because they require engagement (prerequisite prior phase) but may be successfully accomplished without engaging the next phase, perceived discrepancy of reflection. As an added benefit, these immediate outcomes are valued in many educational settings including representation in state curricula standards. I begin with comprehension and knowledge.

Comprehension and knowledge.   Many interventions demonstrate increases in knowledge or content, but these increases may be secondary to key processes as described in TAI. Comprehension involves what participants can recall and understand in relation to message or workshop activities/topic. Put another way, interventions are not content-free, and assessing accurate understanding and recall of content or "knowledge" (note that knowledge does not equate with comprehension, as one is intervention specific) may be useful in understanding intervention efficacy. Comprehension involves a cognitive process with a structure to the information (Bainbridge, 1988). If the active involvement interventions elicit more engagement (arousal and involvement), then these may also result in more comprehension and learning if active involvement activities sustain students' interest and attention longer. Getting students more engaged with prevention efforts may prove more beneficial because it is different from traditional approaches that may be viewed negatively as lecturing or preaching (Balch, 1998; McBrien, 1999). In many interventions students either passively receive content or engage in a limited way through discussion activities (e.g., Hafstad & Aaro, 1997; Siegel & Biener, 2002; Sly, Hopkins, Trapido, & Ray, 2001; Worden & Flynn, 2002). Yet we know that actively engaging audiences in prevention interventions is a more effective strategy than passive reception (Botvin & Griffin, 2007; Tobler et al., 2000). These arguments are consistent with education literature on active learning discussed previously. Based on this rationale, it is logical to propose that:

Proposition: Engagement will mediate the effects of active involvement interventions on comprehension and knowledge.

Proposition: Active involvement interventions will elicit more accurate comprehension and knowledge as compared to nonactive involvement interventions. These gains will decay over time.

Skills.   The TAI perspective on active involvement interventions assumes that we can begin to activate internal evaluations after initial engagement. As individuals are actively engaged, are exposed to content, and become aware of others' positions, they can compare their internal standards to perspectives raised in the active involvement intervention activities. In active involvement interventions, students practice perspective taking and identifying missing arguments and alternate perspectives that can be applied in a range of contexts. This raising of others' perspectives is accomplished most effectively in a small-group context, consistent with the active learning literature. Based on this argument, skills specifically related to critical thinking can represent standards that are highly valued in most state curricula and by school administrators and teachers. These outcomes bolster the value of the content component of active involvement interventions if the intervention occurs in schools.

Proposition: Engagement will mediate the effects of active involvement interventions on perspective-taking skills.

Proposition: Active involvement interventions will elicit increased perspective taking and critical thinking skills compared to nonactive involvement interventions.

Reflection

Some interventions focus almost exclusively on having participants acquire the knowledge or skills needed to resist influence messages but do not take into account students' motivation to resist or how they reflect on the information received (the content). TIA addresses this deficiency through application of social cognitive theory. Social cognitive theory recognizes that individuals can self-reflect or think about their own thought processes (see also Bem's self-perception theory). These processes could include forethought, where individuals evaluate purposive behavior including outcomes projected into the future such as consequences of risk behavior. A key component of social cognitive theory, after engagement with the intervention and immediate outcomes, is for participants to compare perspectives raised with their own internal standards. This comparison is likely to lead to perceived discrepancy between perspectives and standards, resulting in change, or it could reinforce internal standards for lower risk leading to increased resistance. The goal, then, of intervention activities is to build resistance to encourage participants to reflect on their own risky behavior in a meaningful way and consider lower risk alternatives.

Perceived discrepancy.   To ensure that the discrepancy process functions, perspectives generated in the intervention must activate self-reflection, and this activation will only occur if the range of messages generated in the active involvement activities are seen as credible and involve peers. What participants need is cues activating the acquired skills (Phase 2), part of self-reflection that ensures comparison of own with others' behavior, attitudes, and standards, emphasizing perceived discrepancy (leading to a plan for change) or less perceived discrepancy (leading to lower risk behavioral reinforcement). The notion of activation/motivation beyond content and skills is an addition to active involvement interventions articulated in the TAI. Thus, skills or knowledge alone do not guarantee changes in targeted cognitions or behavior because participants do not reflect on their own behavior or apply the information, skills, or knowledge, thereby "activating" the intervention. This argument is also consistent with motivational interviewing techniques discussed later.

Proposition: Immediate outcomes (comprehension and skills) will mediate the effects of active involvement interventions on perceived discrepancy.

Proposition: Active involvement interventions will increase perceived discrepancy compared to nonactive involvement interventions.

Cognitions

One mechanism underlying the processes described thus far is for interventions to instill unfavorable perceptions of risk, and that is described next. The processes and mechanism by which active involvement interventions cause modification of risk-related cognitions is based in activation through reflection generated by perspective taking. This perspective moves beyond reflection to ascertain how participants would apply this information, initially to cognitions.

Risk expectancies.   Tracking the processing of active involvement interventions requires extending beyond initial effects to include how they affect expectancies such as understanding beliefs that people hold about potential risk outcomes, both positive and negative. Expectancy (Goldman, 1999) refers to information stored in memory regarding a systematic "if–then" relationship between events in different situations and conditions (DeBenedittis & Holman, 2010)—for instance, "*If* I drink beer, *then* I will be more outgoing." Active involvement interventions could be used to directly challenge these types of prosubstance expectancies through examples, but this type of discrepancy varies widely for each behavior and group. If the intervention content is about resisting persuasive messages, then we can logically expect to find that participants now have the skills to resist and maybe the motivation to use these skills, yet not all active involvement interventions include resistance content and some may have different and/or additional goals.

Participants in active involvement interventions can plan and generate their own antirisk messages, thereby hearing multiple perspectives on reducing risk and also discussing and reinforcing a range of negative social or health consequences of the risk behavior. Careful attention to the goals of the small-group active involvement intervention activity can direct participant focus to alternatives to risk behavior and emphasize negative outcomes of risk taking. It can be expected, therefore, that such involvement will lead to less increase in positive expectancies of the risk or further reinforce negative outcomes.[2]

Proposition: Reflection (perceived discrepancy) will mediate the effects of the active involvement intervention on risk expectancies.

Proposition: Compared to nonactive involvement interventions, active involvement interventions will elicit more negative risk expectancies and positive expectancies regarding benefits of avoiding risk behaviors.

Subjective norms. Beyond the content emphasis on expectancies, active involvement interventions also target norms based on small group processes utilized. The emphasis in the TAI on perceived discrepancy leads to development of active involvement activities where multiple perspectives are shared, and this begins to activate comparison. By hearing others' (peers) views and practicing planning antirisk messages, interventions engage the audience and provide participants with skills and reflection to identify normative influences and resist influence from peers and media to engage in risk. These effects include both descriptive norms if an activity is tailored to identifying either why participants' peers do not engage in risk behavior or alternatives to risky behavior choices, but active involvement interventions can also influence injunctive norms if disapproval of risk behavior is expressed by peers during the activities. Consistent with this argument, influence of peers will become more positive, rather than that peers will have less influence. Interventions can mitigate perceptions of the high prevalence of peer use (descriptive norms) promulgated within media, as argued within social norms campaigns (e.g., Lapinski & Rimal, 2005; Lederman & Stewart, 1998). Note that the norm emerging in the group interaction is only important if the participant identifies with this particular group, and thus the activity focus on peers' views

is a crucial component. This perspective would discourage exclusively adult-led active involvement activities absent significant peer engagement. Based on these arguments, it is logical to assume that:

Proposition: Reflection (perceived discrepancy) will mediate the effects of the active involvement interventions on perceptions of descriptive norms.

Proposition: Compared to nonactive involvement interventions, active involvement interventions will decrease perceptions of descriptive norms regarding risk behavior and to a lesser extent decrease risk supportive injunctive norms.

Intention and behavior. The ultimate goal of most interventions moves beyond simply increasing engagement, knowledge or skills, reflection, and expectancies or norms to target behavior change (or intentions for maintenance). Thus, these preliminary variables only matter to the extent that they influence subsequent target behaviors. Research also indicates that changing expectancies or norms does not necessarily lead to behavior change (e.g., Hornik, 2002), yet it is difficult to ignore intentions as intervention targets because they are prerequisites for sustained behavior or reinforcement.

In Bandura's social cognitive theory (1986), intentions are conceptualized as plans to change the behavior. This perspective is different from the Theory of Planned Behavior (TPB; Ajzen, 1991), where intention is not limited to behavior change and can include reinforcement. Inclusion of reinforcement or maintenance is particularly significant for youth holding negative attitudes toward or perceived safer norms about risk taking. For example, many middle adolescents hold negative attitudes toward smoking and drug use, and thus active involvement interventions for this group can reinforce expectancies, reinforce norms, and bolster intentions to remain low risk as a result of the reflection on multiple perspectives.[3] For adolescents with existing positive norms (e.g., "cool people chew tobacco") and/or neutral expectancies (e.g., "smoking is not going to kill me anytime soon") the reflection on others' views and exposure to antirisk attitudes and norms (antirisk message planning) will trigger the comparative process and engage perceived discrepancy described in social cognitive theory to influence intentions/behavior. Based on the preceding rationale for

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[2]The effect of active involvement interventions is posited to delay decay of negative perceptions of substances (see Austin & Johnson, 1997; Pfau, 1995). The same logic applies to substance use where retention of no or low use is the expected main outcome. It is possible, however, that an active involvement intervention could function as an intervention (rather than prevention) if it causes adolescents to reconsider prior risky decisions. For smoking, as an example, results suggest that media literacy might serve as both a prevention tool targeting initiation among nonsmokers and an intervention tool for targeting cessation among smokers (Primack, Gold, Land, & Fine, 2006; Primack & Hobbs, 2009; Primack, Sidani, Carroll, & Fine, 2009).

[3]If the goal is to decrease risk behavior (or maintain low-risk behavior such as not smoking), then researchers must track change beyond immediate postintervention effects to document effects and potential mediators (see Banerjee & Kubey, 2013), and these designs must include establishing baseline as well as tracking change to assess decay of effects. We also have limited understanding of the need for boosters in active involvement interventions, and this should be addressed in future research particularly because the social context changes rapidly during adolescence with increased unsupervised time, independent transportation, access to substances from peers and older adolescents, and changing social contexts such as parties (increasingly without adult presence).

how active involvement encourages reflection and changes in cognitions, it is logical to assume that:

Proposition: Cognitions (risk expectancies, norms) will mediate the effects of the intervention on intentions and behavior.

Proposition: Compared to nonactive involvement interventions, active involvement interventions will limit the increase of positive intentions to engage in risk and risk behaviors.

TAI AND ACTIVE INVOLVEMENT INTERVENTION DESIGN EMPHASES

Now that we have described components of the TAI process and relevant variables, the article turns to how to best design the crucial component of the intervention to activate the key mechanisms. One question is, what components are needed based on TAI to function effectively? Based on TAI, there are five phases, with two of them most central to the intervention design. Phase 1 focuses on engagement, highlighting components that activate arousal and participant involvement. Phase 3, in contrast, identifies self-reflection activated through perspective taking and consideration of multiple alternatives.

Although various active involvement interventions have utilized various forms of prevention message planning and/or production, there is little specificity to identifying the crucial component of these interventions. The argument proposed in TAI is that a small-group message-planning activity with instructions focused on perspective taking prior to actual production is the key feature of the influence process, rather than a production activity itself. Articulating these TAI assumptions regarding critical components will enable researchers to better focus future research efforts to maximize resources.

Planning a TAI core activity. An active planning approach, for media literacy, as an example, involves students by first having them analyze and critique advertisements (or some other stimuli such as movies or music lyrics) in small groups and then involving them in planning and creating their own antirisk posters, songs, plays, or radio ads. Planning utilizes application of acquired skills and knowledge that should lead to more key differences on engagement variables, as well as increasing the likelihood of self-reflection. The planning activity (with a worksheet to further foster engagement and reflection) is the central activity and is more evenly distributed as a task across all group members, in contrast to how production processes (actual poster drawing, computer manipulation, and more complex full video production) can easily be dominated by one or two individuals within a group. The intervention design proposed requires thorough group message planning based in multiple

perspective taking prior to onset of drafting any type of production such as a poster mock-up or storyboard for a radio or TV ad. The content component foundation is essential for having participants acquire necessary critical thinking skills and tools they need to resist influence. However, this content component does not provide the motivation to reflect on one's behavioral expectancies, norms, and behavior, as described in TAI and social cognitive theory. The active involvement planning piece is designed to address this deficiency by encouraging students to apply those skills (novel and involving; the incorporated competitive aspect enhances the motivation where participants vote on the "best" group planning or presentation, perhaps utilizing a small prize). The two pieces together address different aspects of social cognitive theory, including engagement and self-reflection.

Based on this perspective, we need to create opportunities for participants to engage meaningfully in perspective taking while making sure that we have control over the content of the interactions (which can be achieved by setting up the task in a particular way, to focus on multiple perspective taking and emphasize risk alternatives and consequences of risk decisions; this task focus is required additionally to minimize any potential negative influence of risk takers in the small group activities). In some active involvement interventions, participants create videos (public service advertisements [PSAs] or longer length), radio ads, posters, songs/raps, plays, and so on. These interventions often need semester-long projects and can require expensive equipment (although the development of editing programs and smaller, inexpensive, high-quality cameras has somewhat reduced this latter burden). In these contexts of full production, there is a greater likelihood of unequal participation in the production processes. More specifically, participants with technical skills often become more engaged in the activity, which changes involvement and the rest of the hypothesized process. The excitement of production may also result in a lack of critical understanding (Tyner, 1992). Therefore, it is crucial to focus on the planning component of the activity rather than execution of the technically based portions of the activity, further emphasizing group members' analyses of behavioral alternatives and perspective taking.

The TAI approach to active involvement interventions represents a shift away from increasing knowledge about risk to focus on motivations behind risk behaviors. One advantage of the TAI is that it moves beyond a focus on intervention content and skills to conceptualize how participants activate information and process the active involvement intervention. The self-regulation component of social cognitive theory guides this approach by prescribing that people are motivated to modify (or reinforce) their current behavior if they perceive it to be incongruent with some external standard (group norms) or with their own internal standards (e.g., goals). Based on this approach, the feedback obtained in the course of small-group interactions with others (peers) causes reflection, in this case based on

exposure to multiple perspectives. If the outcome of reflection is perceived discrepancy between personal behavior and the group's orientation, then the person is motivated to change behavior and make a plan for behavior change. At the core of this reflection is triggering or activating participants so that they evaluate the discrepancy between a behavior and their internal/external standards, and this is done through reflection based on exposure to multiple perspectives in a group activity (planning antirisk messages also functions as rehearsal, an opportunity to practice application of personal standards, critical analyses, and refusal skills). By activating this reflection through exposure to others' views, participants can evaluate and alter their own thinking. Following this logic, then, it is also possible for the process to adapt to multiple targets (i.e., nonusers, occasional users, and regular users[4]) in a way that avoids the critique of social norms approaches as "one size fits all" because perceived discrepancy is increased through perspective taking or less discrepancy may serve to reinforce lower risk. These arguments are also consistent with cognitive dissonance (Festinger, 1957) and would lead to caution to ensure that participants do not feel "forced" to take particular positions or engage in the activities. The activity instructions should, therefore, stress the creative and voluntary nature of the activity to avoid the drawbacks of forced compliance.

Based on the proposed TAI, pressing questions about any active involvement intervention concern how much involvement is required and how long it takes for effects to occur, separate from how long the expected effects may last (Bergsma & Carney, 2008; Banerjee & Kubey, 2013). The range of active involvement intervention length is broad, from a single session or two sessions (1–2 hours) to 40 sessions, and this range emphasizes why we need to identify the critical active feature of these interventions for the most efficacious and parsimonious prevention efforts. Jeong, Cho, and Hwang's (2012) meta-analysis of media literacy interventions, for example, indicates that a greater number of sessions (but not program components) was related to more effective interventions, but this benefit was unclear beyond two or three sessions. In many contexts, it is increasingly difficult to obtain significant intervention time (even 1 week), and this increases the importance of identifying the "active" program components. Effects have been observed for significantly shorter (one or two lesson) interventions (e.g., Austin & Johnson, 1997; Banerjee & Greene, 2006, 2007; Greene,

2012). Thus, brief interventions may work equally as well as longer ones and may serve as a good framework for active involvement interventions. Following the brief motivational interview (BMI) tradition, a brief intervention consists of a single session or multiple sessions of motivational engaging discussion, each lasting from a few minutes to an hour, through which participants are made aware of current risky behavior (cf. perceived discrepancy in social cognitive theory).[5] Brief interventions can also be easily tailored to different populations and/or settings, an added benefit. These practical aspects of brief interventions significantly increase their likelihood of being adopted and utilized by schools, and other programs should be incorporated into active involvement interventions. This brevity and flexibility, combined with other "active" aspects such as novelty, may increase key initial engagement needed for intervention effects.

Peers and small groups.   One framework that explains some of the specific processes of the active involvement interventions is the Socially-Situated Experiential Learning (SSEL; Lederman & Stewart, 1998) framework that describes how the social context (the company of peers) is crucial for engagement because youth are always going to be more engaged with peers than they are with adults. This perspective points to carefully considering the context to fully allow participants to engage and reflect on perceived discrepancy. The TAI extends the description offered by the SSEL model by explicating how these processes translate into behavior, consistent with the notion of multiple perspective taking from social cognitive theory: You can only perspective-take when you engage in a meaningful interaction with similar peers who may have different perspectives (and in a group where everyone is about equal so there is no one with asymmetrical power who forces their perspectives on the others, similar to how some youth perceive standard health instruction as preaching or nagging). Both the TAI and SSEL reinforce arguments for delivering the intervention in an engaging group setting rather than individually, such as online, unless there is a deep interactive component created within a group.

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[4]The composition of the small groups is foundational for active involvement interventions. It is likely, for example, that a small group might include a range of risk experience such as no drinking, occasional drinking, and regular drinking. In a mixed group, regular users may act as a negative influence on others such as nonusers, rather than the reverse. This points to the need for well-designed and well-directed small-group activities that emphasize perspective taking but in a focused and directed way. A group discussing the benefits of marijuana use, for example, is unlikely to reinforce nonuse or change risk behavior. The group must generate alternatives to risk behavior, consequences of risk behavior, or similar features to be effective.

[5]There is evidence that brief, single-session interventions can achieve long-term benefits (e.g., Baer, Kivlahan, Blume, McKnight, & Marlatt, 2001; Friend & Levy, 2001; Tevyaw & Monti, 2001). Much of our confidence in the efficacy of utilizing a brief media literacy intervention is based on the prevention literature, which produced strong evidence for the effectiveness of brief interventions for alcohol and tobacco (e.g., Bien, Miller, & Tonigan, 1993; Grenard et al., 2003; Kaner et al., 2007; Larimer et al., 2001; Neighbors, Larimer, & Lewis, 2004; Stern, Meredith, Gholson, Gore, & D'Amico, 2007; Walters & Neighbors, 2005). The average effect sizes recorded for single-dose brief motivational interventions in college drinking are about .42 for reductions in heavy episodic drinking and between .21 and .28 for reductions in alcohol use more generally within 6–12 months following the intervention (Walters & Neighbors, 2005). Effects across these brief interventions are especially strong for those unmotivated and/or heavier prior users (Baer et al., 2001; Tevyaw & Monti, 2004), which has implications for how active involvement interventions are constructed.

Many active involvement intervention activities occur in small groups, and the benefit of these small peer groups is twofold and necessary, according to the TAI.[6] First, equal participation in the planning processes builds commitment and ownership of conclusions and the planned messages that are also important in self-perception theory (Bem, 1965; Linder, Cooper, & Wicklund, 1968). The multiple perspectives articulated in a group with more equal participation are central to this process and provide exposure to multiple perspectives to begin the process of comparing internal standards to other behavior. Additionally, public commitment in terms of voicing arguments (and presenting arguments publicly; groups should present to the larger group) leads to greater and longer lasting change (Hansen & Graham, 1991), but this effect may only be relevant if the group consists of peers whom participants hang out with or who are viewed as part of the "in" crowd. This participation in group discussions allows for better understanding of peer views, decreased sense of egocentrism, and clarification of norms that should encourage self-reflection. Adolescents are particularly influenced by the expectations, attitudes, and behavior of the group to which they belong, and therefore, use of small groups and interaction (i.e., active involvement) is crucial throughout the intervention.

Much of the active learning literature in education focuses on collaborative learning, where participants work together in small groups on a common task. This approach emphasizes the interaction of small groups rather than solitary learning. For example, Lipsey and Wilson (1993) reported that students working in small groups has a positive effect on academic achievement, echoed by Johnson, Johnson, and Smith's (1998) meta-analysis that cooperative learning consistently improves learning outcomes relative to individual learning. This literature is consistent with the small-group and peer exposure in TAI that is necessary for the self-reflection activation.

TAI and development.   Active involvement interventions should also be adequately tailored to the cognitive capabilities and developmental stage of the target audience to activate key processes identified in TAI, such as engagement and reflection. Active involvement interventions have targeted elementary, middle, high school, and college students for prevention, yet some interventions seem to overlook the importance of experience with resistance or risky offers, persuasive messages, and risk taking as factors intervening

in cognitive responses to these interventions. These groups cannot be treated equally for effective prevention efforts.

Most young children have limited cognitive capacities and largely lack experience. Therefore, children may have difficulty recognizing and critically evaluating persuasive efforts, whereas most adolescents possess more advanced cognitive skills and are more experienced persuaders (O'Keefe, 2002). This difference in development may affect how self-discrepancy and reflection are activated, according to the TAI. Hence, typical interventions that emphasize passive learning and skill acquisition may better fit the cognitive abilities and needs of younger children (e.g., Austin & Johnson, 1997; Austin, MacGowan, & Wagner, 2005; Bergsma & Ingram, 2001), leading to the conclusion that comprehension or skill-focused interventions alone may be initially sufficient for some reinforcement with this group but may be ineffective without involving or "activating" components for middle and later adolescent groups or as younger adolescents develop.

Cognitive development and message processing, informed by theories of egocentrism (see Elkind, 1967, 1978), indicate that involvement and exposure to peer views are crucial for interventions targeting middle and older adolescents, such as the component proposed here in active involvement interventions. This is consistent with the findings on adolescent substance use message processing proposed within the elaboration demand research, where adolescents respond more favorably to drawing their own message conclusions rather than receiving explicit behavioral recommendations (e.g., Greene, Krcmar, Rubin, Walters, & Hale, 2002; Greene, Krcmar, Walters, Rubin, & Hale, 2000; Greene, Rubin, Walters, & Hale, 1996). An active involvement intervention could challenge middle or high school students to use their more advanced cognitive capabilities to plan sophisticated antirisk persuasive messages targeting peers, thus enhancing their motivation and self-efficacy to apply the knowledge and skills. This would be consistent with research indicating that practice with resistance skills is crucial in longer lasting resistance (Hansen & Graham, 1991). Active involvement interventions, thus, should bring about more increased and sustainable change in targeted attitudes and behaviors, especially for middle and later adolescents.

IMPLICATIONS AND CONCLUSIONS

This article proposed a new theory for how active involvement interventions affect participants, the Theory of Active Involvement, and described key "active" features of these interventions based on the theory. The preceding rationale and proposed TAI described some components that are posited to be common to all active involvement interventions, including small-group activities (with public commitment and competition), perspective taking, and

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[6]Note that this planning strategy relies on exposure to others' views and public commitment provided, for example, by dividing a group into smaller groups of three to five students to complete the active involvement tasks. These small groups engage in the active planning activity and share results with the larger group. Motivation can be further enhanced by using incentives for best performance, and to be consistent with the theoretical foundation the best performance should be for a group and voted on by peers. This strategy is unlikely to be effective as a solo activity online absent significant peer interaction to activate reflection and perceived discrepancy.

engagement. It has been argued that antirisk message planning is a more novel and creative approach (through arousal and involvement) because students are encouraged to create their own messages. Therefore, it can be inferred that creative opportunities like designing antirisk posters will be more appealing and viewed more positively than traditional lectures or noninteractive approaches such as discussing existing messages or risk offers. This review also described how active involvement interventions should include activities where individuals discuss why peers do engage in a risk behavior as well as alternatives to engaging in a risk behavior. The intervention activities are designed to increase skill in monitoring one's own behavior and external influences, but the key is engaging and then activating participants' self-evaluation.

The goal of active involvement interventions is creating an optimal opportunity for participants to interact with their peers in a meaningful way around an involving task that is relevant to (re)consideration of the behavior promoted. Thus, based on prior research and consistent with the proposed TAI theory, active involvement interventions should follow certain principles to maximize their success. It is assumed that an effective active involvement intervention includes the following:

- An engaging presentation of novel content that is arousing and involving.
- Use of small groups to increase exposure to peer views with relatively equal participation among group members to maximize self-reflection.
- An activity where groups publicly present views (often to a larger group) and possibly group competition to increase motivation to thoroughly reflect on the presented views.
- A brief intervention format to encourage attention (and maximize dissemination).
- An activity designed to engage the target audience in multiple perspective taking, evaluating alternatives to risk behavior, and analysis of motivations for risk behavior (e.g., planning a risk-prevention message).
- Consideration of developmental appropriateness, taking into account target cognitive development, experience as persuader, and experience with topic (e.g., prior substance use).

There are a number of implications for research based on the present theory and active involvement approach presented. First, the TAI identifies variables that are key mediators that must be measured in intervention research to document the pathways of change. The TAI approach would argue, for example, that measuring intervention liking or satisfaction is insufficient (and likely misleading). To date, there are no studies that test the TAI model entirely; thus, research should begin by testing portions of the model to accrue evidence supporting the theory (or modifying propositions).

To test TAI (and other theories related to active involvement approaches) we need robust designs that include, for example, longitudinal assessments. Posttest only or pre–post test designs absent robust control groups are not sufficient to advance theory (and practice). We also need additional research to identify dosage (and potentially boosters) and which specific intervention components separately or in combination result in any observed effects (see also Jeong et al., 2012). Finally, continued grounding in existing theory, supplemented by cross-theoretical comparison, will benefit research in this area.

There are also implications for practice from the proposed TAI and active involvement approach. First, the perspective provides specific guidance for how to develop key planning activities, summarized earlier. This guidance includes recommendations regarding length, approach, use of small groups, and activity instructions. Interventions are grounded in content, each with specific goals that must be incorporated within the active involvement interventions. There is every reason to believe that the format and structure proposed here can be utilized with multiple risk contexts, if practitioners carefully adhere to foundational guidelines. This TAI proposed can easily be implemented by leaders or teachers with some training, thus increasing the potential for use and dissemination. Unfortunately, in practice, interventions are often modified and adapted, and without ensuring retention of the "active" components this may dilute intervention effectiveness.

This article outlined components of and a proposed theoretical framework for active involvement interventions for use with adolescent risk interventions. To date, only portions of this proposed model have been tested, and future research should extend analyses of the predictions, especially the mediation. One added value of the article, beyond theoretical explanation and articulation of "active components" in this emerging area, is identification of specific measures to documents processes of effects. If perceived discrepancy provides the motivation to change behavior, then you can predict who is going to change or not based by measuring this reflection. Similarly, if level of engagement with the task is hypothesized to predict motivation to engage in perspective taking, then you can predict whether elaboration/reflection is going to happen or not based on level of engagement. Active involvement interventions are an exciting emerging area of research with potential application to a wide range of emerging risk-taking contexts.

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