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From Kids, Through Kids, To Kids: Examining the Social Influence Strategies Used by Adolescents to Promote Prevention Among Peers

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Abstract

Recent technological advances have increased the interest and ability of lay audiences to create messages; however, the feasibility of incorporating lay multimedia messages into health campaigns has seldom been examined. Drawing on the principle of cultural grounding and narrative engagement theory, this article seeks to examine what types of messages adolescents believe are most effective in persuading their peers to resist substance use and to provide empirical data on the extent to which audience-generated intervention messages are consistent with the associated campaign philosophy and branding. Data for the current study are prevention messages created by students as part of a four-lesson substance use prevention "booster" program delivered to eighth-grade students in 20 rural schools in Pennsylvania and Ohio during 2010–2011. Content analysis results indicate that didactic message strategies were more common in audience-generated messages than narrative strategies, although strategy was somewhat dependent on the medium used. Two of the most common strategies that adolescents used to persuade peers not to use substances were negative consequences and identity appeals, and messages varied in the degree to which they were consistent with the theoretical underpinnings and program philosophy of the prevention campaign. Implications of the current study for understanding the social construction of substance use prevention messages among adolescents and incorporating audience-generated messages in health communication campaigns are discussed.

Involving audiences in message design is an important component of designing effective health communication campaigns (Greene, 2013; Miller-Day & Hecht, 2013; Silk et al., 2006). Although target audiences are regularly involved in formative research and message

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pretesting, few campaigns rely on target audiences for actual message generation. In the past, incorporating audience-generated materials would have been difficult, given the expertise and expense associated with creating and distributing campaign messages. This is no longer the case. Personal computers are equipped with the hardware and software needed for the general public to easily and affordably create text, audio, and video messages and share them via photocopies, mp3 players, and social media websites (e.g., Facebook, YouTube). These technological advancements have increased the interest and ability of lay audiences to develop and distribute their own messages.

The growing access and ability to use technology to create messages has the potential to revolutionize the ways in which lay audiences participate in the creation of health campaign content (Morgan, King, & Ivic, 2011). Recent contributions provide cognitive (Greene, 2013) and narrative (Miller-Day & Hecht, 2013) theoretical rationales for this message development strategy. However, to date, few interventions (for notable exceptions see Banerjee & Greene, 2007, 2011) have fully capitalized on these emerging technologies despite the fact that there are likely significant benefits associated with empowering audiences to create campaign messages, such as the use of social influence strategies that resonate with the audience, incorporation of visual and linguistic cues that reflect the cultural environment, and heightened source credibility. Yet there may also be risks, such as the creation of messages that are not theoretically based or using text or images that are inconsistent or damaging to the campaign brand.

The advantages and disadvantages of using audience-generated campaign messages are largely hypothetical because little has been written on the topic to date. The purpose of the current project is to start to fill this gap by analyzing audience-generated messages created as part of a school-based, substance use prevention campaign. Using content analytic strategies, the goal of this article is to describe the types of messages that adolescents create in a naturalistic (i.e., school-based) setting to persuade their peers to avoid substance use. The data for this study include posters, radio public service announcements (PSAs), and video PSAs created by eighth-grade students at 20 rural middle schools. We evaluated the extent to which the student-created messages reflected the campaign philosophy, behavioral recommendations, and branding, as well as the type and extent to which various social influence strategies were utilized. The resulting data indicate what types of messages adolescents believe are most effective in persuading their peers to resist substance use and provide empirical evidence of the benefits and obstacles to incorporating audience-generated messages in prevention campaigns. We start with a brief discussion of the need for such campaigns, particularly in rural communities.

RURAL ADOLESCENT SUBSTANCE USE

Adolescent substance use, which includes illicit use of alcohol, tobacco, and other drugs (ATOD), has been associated with numerous deleterious outcomes for teens, families, and communities. Negative outcomes associated with ATOD use include poor school performance (Bachman et al., 2008), unintentional injury (Hingson, Heeren, & Edwards, 2008; Hingson & Wenxing, 2009), the spread of sexually transmitted infections (Elkington, Bauermeister, & Zimmerman, 2010), teen pregnancy (Tapert, Aarons, Sedlar, & Brown, 2001), depression and attempted suicide (Miller, Naimi, Brewer, & Jones, 2007; Trim, Meehan, King, & Chassin, 2007), and criminal activity (D'Amico, Edelena, Milesa, & Morralb, 2008). Because of this, reducing adolescent substance use is one of the nation's highest public health priorities (U. S. Department of Health and Human Services, n.d.).

Unfortunately, some youth are at greater risk for illicit substance use and consequently experience a higher burden of illness and disease. The convergence of cultural and

environmental factors makes adolescents living in rural areas of the United States one such high-risk group. Cultural factors include rural youth having more positive attitudes toward substance use, perceiving substance use as less risky, and being less likely to report parental disapproval of substance use as compared to youth living in nonrural areas (Substance Abuse and Mental Health Services Administration [SAMHSA], 2004). Environmental factors include the remoteness of rural communities, which reduces the availability of recreational activities for adolescents and results in rural adolescents engaging in substance use due to boredom (Kelly, Comello, & Edwards, 2004). In addition, low population density and easy access to secluded outdoor areas (e.g., forests, fields) encourage unsupervised interaction with peers and provide a place to use drugs unobserved (e.g., Wagenaar et al., 1993). Given these factors, it is not surprising that rural youth use more tobacco (smokeless and cigarette), alcohol, and methamphetamines (Gfroerer, Larson, & Colliver, 2007; Johnston, O'Malley, Bachman, & Schulenberg, 2009; Lambert, Gale, & Hartley, 2008; Roehrich, Meil, Simansky, Davis, & Dunne, 2007) and begin using drugs at an earlier age (Spoth, Goldberg, Neppl, Trudeau, & Ramisetty-Mikler, 2001) than their urban counterparts.

Even though rural adolescents have higher rates of substance use and unique risk factors for engaging in this kind of behavior, prevention efforts have rarely considered geography as an audience segmentation tool. The scarcity of interventions that are sensitive to the needs of this vulnerable population is a missed opportunity, given evidence that the environmental and sociocultural aspects of rurality play an important role in understanding health behavior (Krieger Katz, Kam, & Roberto, 2012; Krieger, Parrott, & Nussbaum, 2011; Ndiaye, Krieger, Warren, & Hecht, 2011). Next, we describe the development of a substance use prevention curriculum that was designed to fill this gap and how the curriculum served as the basis of a school-level substance use prevention campaign.

THE *keepin' it REAL* PREVENTION PROGRAM

keepin' it REAL (*kiR*) is a culturally grounded substance use prevention program that teaches adolescents communication skills for making good decisions and establishing and maintaining positive relationships, including resisting offers of alcohol, tobacco, and other drugs (ATOD). The lessons in *kiR* are based on students' narratives, reflecting their stories and lived experiences. Furthermore, students help write the scripts and create the videos that accompany the lessons. Thus, the *kiR* curriculum represents a culturally grounded, narrative approach to message design (Hecht & Krieger, 2006; Miller-Day & Hecht, 2013). In this section, we describe the theoretical approach of the *kiR* curriculum, core components of the *kiR* multicultural curriculum, the *kiR* rural curriculum, and the eighth-grade booster curriculum.

Theoretical Underpinnings

The *kiR* curriculum is based on two interrelated theoretical approaches. The first is the principle of cultural grounding, which argues that health interventions must be derived from a given culture group, with cultural group members as active participants in message design, production, and dissemination (Hecht & Krieger, 2006). This is accomplished through infusing the curriculum design, production, and implementation with the narratives of the target audience (Colby et al., 2013). Proving forums for adolescents to express their experiences with substance use provides an organic method for grounding the intervention in the various cultures (e.g., "youth," regional, racial/ethnic cultures) represented within the target audience. The substance use narratives that emerge reflect the target audience's cultural, social, and personal knowledge about substance use (e.g., how offers are made, accepted, refused) and serve as the basis for behavioral scripts that guide their decision making.

Consistent with narrative theory, the curriculum privileges narratives (or stories) as a form of cultural knowledge (Hecht & Miller-Day, 2009; Miller-Day & Hecht, 2013). Because people intrinsically know how to create stories, a narrative approach to substance prevention elevates adolescents from target audiences to "author" and "co-author" of messages about how to make good decisions and resist opportunities to use ATOD (Fisher, 1984, 1985). This approach is more formally described as narrative engagement theory (NET; Miller-Day & Hecht, 2013), which emphasizes the use of culturally grounded narrative strategies for achieving prevention goals. In a sense, the goal is to collaboratively develop narratives that create prosocial or healthy models of behavior. This includes providing new narrative knowledge where none exists (i.e., new mental and behavioral models), changing narrative knowledge when it is inconsistent with resisting substance use, and reinforcing existing substance use resistance narratives.

kiR Multicultural Curriculum

The original *kiR* curriculum was developed in the early 1990s to reflect the narratives of substance use and resistance of a multicultural student population in the Southwestern United States. Guided by the tenets of the principle of cultural grounding and NET, the development of the original curriculum began with in-depth interviews with a multiethnic sample of middle and high school students in Phoenix, AZ. The interviews captured the relational complexities associated with resisting ATOD offers, norms, and attitudes, as well as the repertoire of strategies that adolescents use to accomplish this precarious task in various social contexts.

Teaching students the communication skills required to competently resist offers of alcohol, tobacco, and other drugs using these strategies constitutes the core of the *kiR* curriculum. This is accomplished through the use of videos that accompany five of the 10 lessons in which teens model each of the four main resistance strategies. In keeping with the culturally grounded, narrative approach to curriculum development and implementation, each video was written and produced by a group of high school students at a performing arts high school in Phoenix by drawing on information gathered through in-depth interviews with middle school students about their experiences with ATOD.

The use of narrative videos to model the resistance strategies has been demonstrated to be a key aspect of the program's success (Warren et al., 2006). Students who were exposed to four or five of the videos in the *kiR* program, or those getting a "full dose" of the narrative-based intervention, reported smaller increases in alcohol and marijuana use than students who watched fewer than four videos. Although there is evidence that student-created messages have an independent effect on adolescent substance use, the process by which students create messages for their peers and what components of student-created messages are most influential has not been well documented.

Although *kiR* has been demonstrated to be a successful program in various contexts, its effectiveness (like most other programs) has not been tested in rural environments. Because research indicates cultural differences in the social context of substance use in rural and urban areas, it is unclear whether rural students will identify with the narratives surrounding ATOD offers that emerged in the Southwest (e.g., walking home from school). This, combined with the high rate of ATOD use in rural areas and the lack of drug resistance programs designed for rural youth, led to the development of a rural version of *kiR*.

kiR Rural Curriculum

The first step in developing the new curriculum was to conduct extensive formative research to determine whether the youth narratives that are infused in the multicultural curriculum

would be perceived as having fidelity among rural students. In-depth interviews were conducted with 113 youth attending school districts classified as “rural” by the National Centers for Education Statistics to collect stories of substance use offers and refusals in this context. The results showed that the rural narratives differed from nonrural narratives in several substantive ways (Pettigrew, Miller-Day, Krieger, & Hecht, 2011). Rural students used different types of resistance strategies, including narratives of personal or vicarious experiences that justify nonuse (e.g., a sibling who was in a car accident as a result of substance use) and establishing a nonuse identity (e.g., I’m not that kind of person). Rural youth also cited being accountable to older siblings and parents, as well as being a role model for younger siblings and community members, as a motivation for nonuse.

Rural student narratives also featured different backdrops, characters, and events compared to urban student narratives (Pettigrew, Miller-Day, Krieger, & Hecht, 2012). For example, “bush” parties or other places “in the woods” were common locales for encounters with substances; friends, cousins, siblings, uncles, aunts, grandparents, and even parents were reported as offering substances; and, rural teenagers reported engaging in various activities including four-wheel riding, walking around town, hunting, and spending time at a fire pit. While some of these venues, people, and activities are redundant with urban adolescent substance use (e.g., parties, siblings, walking around town), others are more particular to the rural environment (e.g., four-wheeling, fire pits).

Based on these findings, the decision was made to reground the *kiR* curriculum to reflect the narratives of substance use and resistance of rural youth. With the input of rural teachers and rural health educators, the curriculum was rewritten to reflect both the substantive aspects of substance use resistance (e.g., using vicarious experiences to explain why they do not use substances) and the actors (e.g., family members), settings (e.g., woods), and events (e.g., four-wheeling) that were common across student narratives. The five videos that accompany the curriculum were also recreated. Students from five different rural high schools volunteered to write scripts, film, and star in the videos. For additional details on the creation of the rural curriculum, see Colby et al. (2013).

kiR Booster Curriculum

In addition to developing a regrounded version of *kiR*, a booster program was created to reinforce the key curriculum components of both the classic and the rural versions curriculum the following school year. The eighth-grade booster program consisted of four lessons: *kiR* overview, contest overview, message creation, and message presentation and evaluation. The first lesson briefly reviewed each of the four resistance strategies and students watched the introductory video from either the *kiR* classic or *kiR* rural curriculum. The remaining three lessons were identical in both versions of the curriculum. The lessons guided students through a group project in which students designed substance use prevention campaign messages for their peers using *kiR* strategies. In the second lesson, teachers and students chose whether to produce posters, radio announcements, or videos. In the third lesson, teachers instructed students on creating a storyboard to map out their narratives, assigning specific roles to each group member (e.g., a video group should have a writer, producer, director, and videographer), provided examples of poster, radio announcements, and videos that did not utilize fear appeals, and provided guidance on how to distribute their messages (i.e., in the school and community). Teachers were offered an incentive of $100.00 for teaching all four lessons.

Student involvement in the booster program was encouraged through a contest to identify the best poster, radio PSA, and video PSA created for the campaign. Students were told that their messages must utilize one or more *kiR* techniques (i.e., refuse, avoid, explain, leave) in order to be eligible for the contest. In the final lesson, each student group presented its final

poster, radio PSA, or video PSA to the classmates. The class evaluated the products for their message content and selected the best entry in each category (poster, radio PSA, video PSA) for submission to the *kiR* booster contest (archived at http://www.kir.psu.edu/rural/contest.shtml). Research staff selected the best entry in each category based on how well the message reflected *kiR* resistance strategies. The teacher and each student in the classroom that produced the winning entry in each category (poster radio PSA, video PSA) were given an iPod Shuffle valued at $50 each.

In addition to submitting messages to the contest, teachers and students were encouraged to distribute their messages as widely as possible in their school and community. In order to facilitate this process, posters that were submitted to the contest were professionally reproduced by the research team and returned to the classroom. The majority of students displayed their posters on school bulletin boards and in hallways. A school in southeast Ohio scanned the poster and made it the screen-saver for all computers in the school district. Students in another Ohio school hung their posters in local businesses.

Students who submitted radio PSAs to the contest had their messages aired in school (e.g., morning announcements) and also distributed their PSA using social media (e.g., Facebook). In several cases, the students had their PSA produced and aired by local radio stations. One radio station in southeastern Ohio played a PSA repeatedly, generating positive press coverage for the school and the *kiR* program in the listening area. Video PSAs were shown in schools (e.g., health class, morning announcements), and one school in central Pennsylvania posted a winning video on the school website. In this way, the messages created as part of the booster program formed the basis of a substance use prevention campaign in each school and, in some cases, community.

To summarize, students received in-school instruction on theory-driven message design and independently produced messages intended to persuade their peers to resist offers of substance use. This process resulted in a unique data set consisting of adolescent-created posters, radio PSAs, and videos that were distributed to create school- and community-level campaigns. These campaign materials constitute a valuable form of curriculum evaluation data. In order to evaluate the feasibility of using audience-generated messages in health communication campaigns, it is important to determine the extent to which such messages are consistent with principles of effective health message design. Thus, we pose the following questions: To what extent do adolescent-generated, substance use prevention campaign messages employ narratives (RQ_1) and include *kiR* substance use resistance strategies and campaign branding (RQ_2)?

PEER INFLUENCE STRATEGIES

Adolescent substance use prevention campaigns have experimented with a variety of social influence strategies over the years. The most infamous is the fear-based 1987 public service announcement produced by Partnership for a Drug-Free America that originally featured two eggs being cracked into a skillet accompanied by a voice over saying, “This is your brain. This is your brain on drugs. Any questions?” This PSA promoted the idea that drugs will “fry your brain” and is an example of a larger class of messages that attempt to use fear to dissuade teens from experimenting with alcohol, tobacco, and other drugs. In addition to fear appeals, other social influence strategies commonly used in prevention messages include social modeling, positive emotional appeals, informational or testimonial appeals, and empathy (Slater, 1999). Although much is known about the strategies adopted by experts for persuading teens to avoid ATOD, little is known about the strategies that adolescents themselves perceive as effective for persuading their peers (for a notable exception see Banerjee & Greene, 2013). Thus, we also examine what core social influence

strategies are featured in adolescent-generated substance use prevention messages and whether narrative and didactic adolescent-based prevention messages utilize different strategies. Specifically, we ask: What social influence strategies do adolescents rely on to persuade their peers to avoid substance use (RQ_3)?

METHODS

Overview

The current project is based on a study to implement and assess the effectiveness of regrounding the multicultural *kiR* curriculum for rural adolescent audiences. Data for this study were the prevention messages created by students as part of a four-lesson "booster" program for *kiR* that was delivered to eighth-grade students who had received either classic or rural versions of the curriculum in 20 rural schools in Pennsylvania and Ohio during the 2010–2011 school year. A contest was held requiring students to work in teams to create a poster, radio public service announcement (PSA), or video PSA in the spirit of the *kiR* program in which they had recently participated. Teachers and students decided whether the entries would take the form of posters, radio PSAs, or video PSAs. In order to remove technological barriers for creating the radio- or video-based messages, each classroom was provided with a video camera, batteries, and memory cards, along with instructions for their use during teacher training.

Sample

Students created approximately 60 posters, 12 radio PSAs, and 16 video PSAs as part of the contest. Due to the community-based nature of the research, teachers did not retain all of the posters that were created as part of the booster program, rendering approximately 20 posters unavailable to the research team for analysis. The current study is based on all posters available in electronic format ($n = 40$) and all of the radio and video PSAs. The 68 messages included represent the work of approximately 272 eighth-grade students. Among all the students who participated in the booster contest, most were approximately 14 years of age and Caucasian (94%). The gender distribution was fairly even, with slightly more females (58%) participating as compared to males. Students reported spending the most hours creating posters ($M = 3.55$, $SD = 1.82$), followed video PSAs ($M = 3.46$, $SD = 1.87$) and radio PSAs ($M = 2.49$, $SD = 1.36$).

Message Coding

A coding instrument was developed to assess the use of narratives (RQ_1), resistance strategies and campaign branding (RQ_2), and social influence strategies (RQ_3) across all three media types (i.e., posters, radio PSAs, video PSAs; see Appendix A for a description of codes). Each message was coded for the presence or absence of narrative content. A message was coded as narrative if it contained at least one clearly identifiable character (i.e., message source) and implied or explicit conflict (i.e., decision about whether to use ATOD). Messages were also coded for the number of characters present, the setting in which the conflict occurred, and campaign content. Campaign content included explicit mention or demonstration of one or more of the four *kiR* strategies (refuse, avoid, explain, or leave) that were taught in the curriculum and booster lessons.

Finally, messages were coded for the presence of social influence strategies. The initial social influence strategy coding categories were derived from Slater (1999) and included fear appeals, rational appeals, modeling appeals, and empathy appeals (see Appendix C for a description of codes). There was only one instance of an empathy appeal in the data set, so this code was eliminated from further analysis. Four additional codes were developed based on preliminary data analysis: identity appeals, negative consequences appeals, goal

achievement, and peer pressure. Identity captured messages that emphasized a nonuse identity as a resistance strategy. This is consistent with the emergence of identity as a strategy for resisting drug offers that is unique to rural youth (Pettigrew et al., 2011, 2012). Negative consequences appeals identified messages that presented drug use as undesirable, distasteful, or irresponsible. This code was similar to fear appeals, except that the focus was on negative social (rather than physical) outcomes. Goal achievement appeals referred to messages that focused on avoiding substance use as a means to attaining short- or long-term ambitions (e.g., performing well in an upcoming athletic event; going to college). Peer pressure appeals depicted interpersonal encounters in which an individual resisted an attempt by another to influence his or her perspective or behavior. The coding categories were not mutually exclusive as multiple strategies were often employed in student-generated messages.

Reliability

Two undergraduate coders and one graduate student coder were enlisted to code the messages. The coders participated in a training session to learn the coding scheme and practice coding using similar messages collected as part of another study. Reliability was established by coding 20% of the sample. Interrater reliability was acceptable (Cohen's kappa = .83) and the remaining messages were divided evenly among the coders.

RESULTS

Use of Narratives in Adolescent Prevention Messages (RQ_1)

All 68 messages, posters, radio ads, and video ads were categorized as narrative or didactic. Because the focus was encouraging students to use narrative rather didactic message strategies, messages that combined both narrative and didactic elements were coded as narratives. Overall, there were fewer narrative messages (n = 25; 37%) than didactic messages (n = 43; 63%). However, some media had more prominent occurrences of didactic messages than the others. Of the 40 posters, 5 were narrative and 35 were didactic. Of the 12 radio PSAs, 4 were narrative and 8 were didactic. All 16 of the video PSAs were narrative in structure. Although posters were more likely to use didactic structures more than narrative structure ($\chi^2(2, n = 40) = 32.74$, $p < .05$), some posters successfully incorporated narratives by using more detailed designs (e.g., a cartoon segment where characters were encountered with peer pressure to do drugs).

Narrative and didactic messages differed significantly regarding both the use of characters as well as settings. Not surprisingly, narrative messages (M = 4. 36, SD = 2.33) included significantly more characters than didactic messages (M = 1.02, SD = 2.03; $t(66) = 6.20$, $p < .001$). In fact, almost half of all didactic messages (n = 29) did not contain any characters. There was substantial variation among the messages regarding the number of characters featured, as indicated by the large standard deviations. While many didactic messages had no characters, some incorporated up to 10. The number of characters in narrative messages ranged from two to 14.

Narrative and didactic messages also differed somewhat in their use of settings. Narrative messages were significantly more likely to situate the message in a realistic setting as compared to settings without clearly identifiable geographical or architectural features, $\chi^2(1, n = 68) = 38.01$, $p < .001$. Narrative messages were also more likely than didactic messages to imply or model substance use offer-and-resistance sequences occurring across multiple settings (e.g., offerer and refuser interacting in a home and then seeing each other at school), $\chi^2(1, n = 68) = 13.16$, $p < .001$. The most common realistic settings portrayed included schools (n =15), parks (n = 13), and homes (n = 8). Surprisingly, only two narrative and two

didactic messages incorporated clear clues regarding whether the setting was intended to be urban (n = 1) or rural (n = 3).

Inclusion of *kiR* Resistance Strategies and Campaign Branding in Messages (RQ_2)

Approximately two-thirds of all campaign messages referenced the *kiR* campaign (n = 45) by using the campaign name, logo, or slogan. The most common use of the campaign was the campaign name, "*keepin' It REAL*," and the initials R. E. A. L., which represented the four substance use resistance strategies. In one poster, the *kiR* logo was featured prominently at the top, and the poster listed each resistance strategy and utilized "refuse" and "leave" in a comic-like presentation (see Poster 02 in Appendix B). Other posters only promoted one resistance strategy (see Poster 03 and Poster 22 in Appendix B). In a few cases, the campaign name was included through a prologue provided by the radio announcer introducing the PSA (e.g., "Here's a message from an eighth grader at [middle school name] about staying healthy and *keepin' it REAL* without drugs and alcohol"). Resistance techniques appeared in similar frequency ("refuse," n= 31; "explain," n= 30), "avoid," n= 33; "leave," n=34). The medium did not significantly influence the use of particular techniques: refuse, $\chi^2(2, N = 68) = 2.68$, $p = .23$; explain, $\chi^2(2, N = 68) = 1.92$, $p = .38$; avoid, $\chi^2(2, N = 68) = 4.35$, $p = .11$; and leave, $\chi^2(2, N = 68) = 3.93$, $p = .14$. In other words, posters were equally likely to emphasize each of the four resistance strategies as compared to video or radio PSAs. The narrative or didactic message structure did not affect the use of resistance strategies (see Table 1).

When *kiR* techniques were combined, it was evident that far more messages utilized all four resistance strategies (n = 27) than one (n = 9), two (n = 4), or three (n = 1) strategies. Medium did not play an influential role in the number of techniques employed ($\chi^2(8, n = 68) = 10.796$, $p = .214$). Employing all four techniques in skit or by explaining them in greater detail was related to the visual or verbalized presence of the "R.E.A.L." initials, $\chi(4, n = 68) = 18.658$, $p = .001$. Messages that did not incorporate any resistance strategies or other parts of the *kiR* campaign often relied on clichéd images and behavioral recommendations. For example, one poster used an image of a flying kite accompanied by text that stated, "Don't get high. Be drug free" (see Poster 08, Appendix B).

The Use of Social Influence Strategies to Persuade Peers to Avoid Substance Use (RQ_3)

Frequencies of social influence strategies were tabulated and sorted by medium and message structure (see Table 2). Messages were coded for the presence of seven types of social influence appeals: rational, negative consequences, peer pressure, fear, identity, modeling, and goal achievement. These strategies were used 198 times across all 68 messages. The most commonly used social influence strategies were negative consequences (n = 33) and identity (n = 33), followed closely by three other strategies: fear (n = 32), rational (n = 31), and peer pressure (n = 28). Less commonly used were goal achievement (n = 22) and modeling (n = 17). There were more instances of social influence strategies in didactic messages overall (n = 105). However, narrative messages had significantly higher concentrations of social influence strategies per message (M = 4.28, SD = 1.51) than didactic messages (M = 2.11, SD = 1.45), $t(68) = 5.835$, $p < .001$. Frequencies of all social influence strategies and their distribution across narrative and didactic messages can be seen in Table 2.

There were also significant differences in the use of social influence strategies by medium. Posters contained the most social influences strategies (n = 83, 41%). The most common social influence strategies used in posters were fear appeals (n = 16) and identity (n = 16). Fear appeals in posters demonstrated a clear link between ATOD use and outcomes that threatened the user. For example, one poster featured a drawing of cemetery gates with

accompanying text reading, “Do you want to end up here EARLY? If not, then don’t do drugs!” Posters using the identity strategy would feature text that appealed to defining and shaping the self. For example, one poster read, “Be athletic, not pathetic.”

Video ads accounted for 39% (*n* = 78) of social influence strategies. The most common social influence strategies used in videos were peer pressure (*n* = 14) and negative consequences (*n* = 13), followed by rational and identity (both *n* = 12). Peer pressure was characterized by a proposal to engage in certain behavior followed by additional attempts to gain compliance. To illustrate, one video PSA using peer pressure showed a boy offer a cigarette to a friend in the bathroom. When the friend said no, the boy continued to try to get his friend to join him in his cigarette use. Negative consequences appeals depicted a character acting in undesirable ways or representing undesirable characteristics as a result of or while engaging in ATOD use. For example, one video depicted a boy consuming alcohol and then proceeding to lose balance, fall, and act like a buffoon. Rational appeals in videos often came in the form of a protagonist character resisting ATOD use by giving well articulated and complete reasons for resisting. For example, in one video, a narrator character gives a monologue detailing the potential consequences to health and social life in the present and future without using emotion. Identity strategies were coded when the message portrayed decisions about ATOD use as directly related to identity construction and preservation. For example, in response to being offered a cigarette, one message featured a character saying, “*I’m* not into that stuff.”

Fewer social influence strategies were used in radio ads (19 %; *n* = 37) as compared to posters and videos. The most common social influence strategies used in radio ads were peer pressure (*n* = 8), rational (*n* = 7), and negative consequences (*n* = 7). Radio ads depicted peer pressure in much the same way as the video ads; a skit was performed in which one friend or classmate offered drugs to another and then persisted to encourage the use even after resistance. Rational appeals in radio ads were often at the end of the audio clip and gave clear, developed rationale for resisting use. One radio ad said, “If you were offered drugs or alcohol, would you be able to handle the pressure? Or would you be able to simply say no and walk away … So, if … you don’t want to be denied several job opportunities when you’re older I think you know the answer to this question.” The use of negative consequences in radio ads operated very similarly to video ads despite the different affordances of the medium. The undesirability of actions related to ATOD use in radio ads was created through verbal condemnations by other characters. One radio PSA utilizing a negative consequences appeal featured a drug dealer as the main character who offered various substances to kids. When a character refused, a chorus of peers cheered, “yay!” When a character acquiesced, a chorus of peers yelled, “boo!”

DISCUSSION

As technology continues to advance, so does the ability of lay audiences to create and distribute their own messages. It is important for health communicators to understand the types of messages lay audiences create and how such messages can be used to promote public health. The goal of this study was to explore adolescent-created messages about substance use prevention to identify whether students could create messages that resonate with the theoretical underpinnings (i.e., focus on resistance strategies and the use of narratives) and branding elements (i.e., *keepin’ it REAL*) of a substance use prevention campaign, and how students conceptualize substance use prevention.

The current study demonstrates that, despite being trained and encouraged to the use of narrative message structures, the majority (63%) of student-created messages utilized a didactic message format. This disappointing finding suggests one of two things. The

adolescents believed either that didactic messages are superior in producing nonuse outcomes or that being encouraged and trained to use narratives was not enough to overcome the dominant cultural conception of substance use prevention messages as vehicles of instruction. The latter seems most likely, given that prevention messages in the media environment tend to utilize didactic message strategies (Slater, 1999). Four lessons on creating narratives may simply not be enough for students in this age group to understand, internalize, and reproduce a narrative approach to prevention given the dominant didactic paradigm in the cultural environment.

Even though most of the students did not produce narrative messages, one-third of them did. This is noteworthy, given the complexity of the task. Creating a narrative message in this context involves not only understanding narrative prevention principles, but also the ability to apply them to a new situation. Measuring a student's ability to create a narrative resistance message is a unique behavioral outcome as it indicates that narrative knowledge has been changed, created, or maintained. As narrative message strategies become more commonplace in the mediated health campaign landscape, it may become less difficult to encourage adolescents to create messages in a narrative format.

Importantly, the decision to use narrative versus didactic message strategies was closely tied to the choice of medium used to convey the message. Didactic message strategies were commonly chosen when students had to rely solely on visual verbal and nonverbal messages (i.e., posters). Notable exceptions were posters that utilized comic strips to create a character and convey a sense of conflict (e.g., a character faced with a decision to use tobacco, alcohol, marijuana or another drug). When students were restricted to audio-verbal and nonverbal messages (i.e., radio PSAs), didactic message strategies also dominated, but some did incorporate narrative message strategies. When adolescents created videos, they used the ability to incorporate nonverbal visual (e.g., color, costumes, scenery), nonverbal audio (e.g., pauses, intonation), verbal visual (e.g., handheld signs), and verbal audio (e.g., speech) elements to present their message in a narrative format. There were no instances of student-created video content that relied solely on a didactic message strategy, such as "the talking head" PSA format. This may be evidence that students' conceptions of prevention campaigns and message strategies are intrinsically linked to the medium. These results suggest that campaigns seeking to encourage the use of narrative in audience-generated content should emphasize the creation of messages with both visual and audio components (i.e., video PSAs) rather than visual only (i.e., posters) or audio only (i.e., radio PSAs).

Another key finding of the current research is that more than half of the groups (n = 41; 60%) successfully incorporated at least one of the four resistance strategies, with two-thirds of these messages including all four resistance strategies. Interestingly, the use of resistance strategies was closely tied to campaign branding. When messages visually or verbally used the acronym (*REAL*), they also tended to incorporate all four of the resistance strategies in the message. In other words, messages that made visual or auditory reference to *REAL* were more likely to also mention refuse, explain, avoid, and leave as resistance strategies than messages that used *kiR* or did not mention the program name. These results are consistent with previous research that found acronyms improve recall of class material by students (Saber & Johnson, 2008). It also suggests that health intervention programs that advocate using a repertoire of strategies for accomplishing a health goal, such as knowing multiple strategies for resisting substance use, should ensure that those strategies are built into campaign branding (Hecht & Lee, 2008; Lee & Hecht, 2011). At the same time, it appears that branding *kiR* has been at least partly successful, with the key resistance strategies, slogan, and logo effectively communicated.

The results also provide insight into what social influence strategies adolescents believe will be most persuasive with their peers. Perhaps the most surprising findings were that the two most commonly used strategies were negative consequences appeals and identity appeals. Unlike fear appeals that focus on the short- or long-term negative physical outcomes of substance use, negative consequences appeals focus on how the act of using substances portrays a negative or undesirable social image (e.g., substance use as irresponsible). Similarly, identity appeals focused on the positive personal attributes associated with nonuse. For example, messages that used identity appeals focused on presenting characters' sense of self as being inconsistent with substance use. Both of these appeals make attributions about drug use and nonuse, casting the former in a negative light. These findings are consistent with developmental literature showing that developing and establishing a sense of self is a primary task of adolescence (Erikson, 1980; Marcia, 1980) influenced by social and contextual features of the environment (Schachter, 2005). However, it is unknown the extent to which this type of identity appeal reflects socially constructed norms within the rural cultural environment (Pettigrew et al., 2011) or is applicable to the broader adolescent population.

LIMITATIONS AND FUTURE DIRECTIONS

As with all research, certain limitations of our findings must be noted. First, because the current research was theoretically grounded in NET, the coding rules used to identify narrative and didactic message strategies privileged narrative elements. Thus, messages that were structured in narrative form but also contained a didactic element (i.e., a small portion in which instruction was given to the audience) were coded as narrative messages. This may have caused certain types of appeals (e.g., rational) to be overrepresented in the narrative message category. Second, there are limitations associated with the sample. The sample size also prevented comparison of messages created by students in schools that received the *kiR* classic booster curriculum and students in schools that received the *kiR* rural booster curriculum. This potential limitation is tempered by the fact that the two booster programs were identical with the exception of the video shown in Lesson 1; thus, few differences between the two groups would be expected.

The results of the current study are most relevant to campaigns that can provide some motivation to adolescents for creating specific types of health messages (e.g., contest associated with a desirable reward for winning) and the ability to provide guidelines regarding the types of content messages should include (e.g., using a resistance strategy). It is unknown to what extent the types and frequencies of particular social influence strategies would be applicable to other age groups and other regions. For example, the role of substance use in the formation and maintenance of romantic relationships would likely be more salient among older adolescent students. Similarly, the cultural narratives of substance use may differ for students residing in more urban or suburban areas. Previous research suggests (Pettigrew et al., 2011) that the rural adolescents in the current study should be more likely to use establishing a nonuse identity as a social influence strategy as compared to other geographic groups. Exploring differences in the types of social influence strategies adolescents believe will be persuasive by developmental stage and regional or cultural identity could yield valuable insights for campaign development.

There are several important future directions for understanding how audience-generated messages can be effectively incorporated into prevention campaigns. The messages in the current study were rated by "expert" observers; it may fruitful for future research to have student-created messages evaluated by their peers. It is possible that student-created messages may be rated more highly than messages created by professional campaign

developers on constructs such as interest, realism, and identification, which may increase their ability to persuade their peers (Lee, Hecht, Miller-Day, & Elek, 2011).

Future research should continue to explore how the use of social influence strategies relates to lay conceptions of effective message design. It is unclear whether students use the social influence strategies they perceive would be most effective to persuade themselves versus their close friends versus the general student body. For example, the third-person effect suggests that individuals have a tendency to rate others as more vulnerable to media persuasion than themselves (Davison, 1983). It is possible that students will rate other students as being persuaded by certain types of appeals than they would be themselves. Understanding the process by which adolescents choose a social influence strategy to achieve a persuasive outcome has potentially important implications for how individuals construct messages to achieve prevention-related goals (e.g., convincing a friend not to drink and drive). Relatedly, one might wonder about techniques for more successfully infusing refusal strategies and the *kiR* brand with narrativity so they more clearly manifest themselves in the student produced messages. Potentially useful areas to explore include how mental and behavior models are represented in student messages and understanding the nature of social proliferation (Larkey & Hecht, 2010; Miller-Day & Hecht, 2013).

Finally, future studies may want to explore the advantages and disadvantages of message blending in the prevention context. For example, one of the messages in this study included the term “above the influence,” a reference to a national substance use prevention media campaign being disseminated at the same time as the current study. In the commercial context, blending of this type may be perceived as detrimental to the campaign because it dilutes the distinctiveness of brand. In the prevention context, however, the idea that students can make connections among campaigns advocating similar behaviors may ultimately serve to reinforce the prevention message.

CONCLUSION

Health communication campaigns can play an important role in achieving the goal of reducing adolescent substance use through the strategic design of campaign messages. Features associated with effective messages for preventing adolescent substance use include focusing on developmentally appropriate social influence strategies (i.e., social norms) and avoiding developmentally inappropriate strategies (i.e., fear appeals) by using characters that are similar to the audience. The current study demonstrates the potential utility of incorporating audience-generated messages as a strategy in an adolescent substance use prevention campaign. Evidence was obtained that the campaign was successful in conveying resistance strategies and the overall *kiR* brand and moderately successful in conveying the importance of narrative form. The adolescents conceived of a wide repertoire of influence strategies for persuading peers, with perhaps the most notable being avoiding substance use by establishing a nonuse identity within the social network. Future research should identify what components of audience-generated messages influence their success with peers and examine whether there are techniques to insure a higher degree of fidelity with program philosophy and strategy.

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APPENDIX A: kiR RESISTANCE STRATEGIES

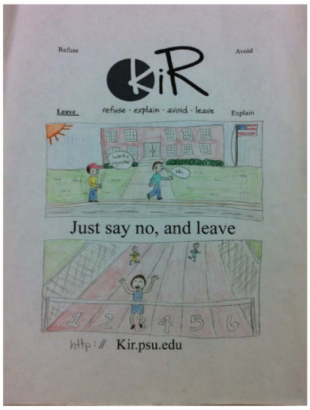
Refuse: advocates dismissing or rejecting a proposal to use ATOD.

Explain: advocates providing reasons for not using ATOD.

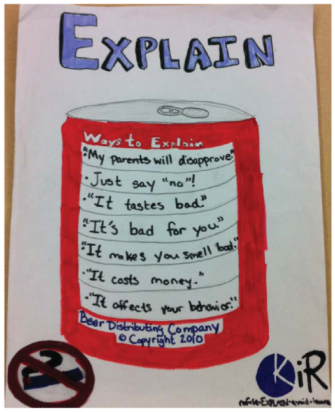
Avoid: advocates staying away from people and situations commonly associated with ATOD.

Leave: advocates removing oneself from a person or situation involving ATOD.

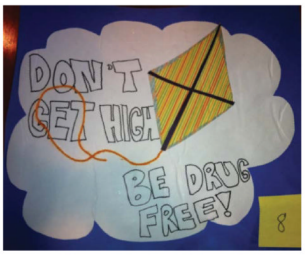
APPENDIX B: SELECTED POSTER EXAMPLES



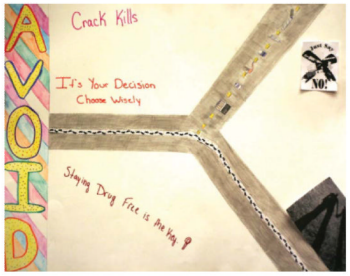
Poster 02



Poster 03



Poster 08



Poster 22

1. .

APPENDIX C: TYPES AND FREQUENCIES OF SOCIAL INFLUENCE STRATEGIES UTILIZED IN ADOLESCENT PREVENTION MESSAGES

Strategy	Frequency, number (%)	Description	Examples
Fear	33 (48.5)	Emphasizes risk of death/injury/ punishment/illness to self, visual of arrest, accident, ambulance, hospital or a symbolic representation of loss, injury or death.	(Poster) Picture of drug user in jail with text "Doesn't he look *REAL* cool?" (Radio) "That stuff is nasty for you. It could ruin your whole life like bad grades or no college."
Identity	33 (48.5)	Focuses on establishing a nonuse identity (i.e.,	(Video)

Strategy	Frequency, number (%)	Description	Examples
		communicating a personal, relational, or social identity that prohibits substance use).	Smoking peer says, "You wanna smoke a this?" Refusing peer says, "No. *I'm* not into that kind of stuff."
Rational	32 (47.1)	Advocates analytical thinking and decision making.	(Poster) "Avoid! Don't go if you think it's a bad idea." (Poster) "It's your decision. Choose wisely."
Modeling	17 (25.0)	Demonstrates people enacting nonuse behavior.	(Video) Refusing peer (RP): "What is that?" Drinking peer (DP): "Vodka, want some?" RP: "What?? No!" […]
Negative consequences	33 (48.5)	Depicts the act of using drugs as undesirable.	(Video) "EW! He's smoking! Ugh! Gross!"
Peer pressure	28 (41.2)	Portrays interpersonal encounters in which an individual resists an attempt by another to influence his or her perspective or behavior.	(Video) In response to a refusal to smoke… Smoking peer, "Oh are you kidding? You'd look cool like me!" Refusing peer, "No." SP: "It's like heaven in a stick."
Goal achievement	22 (32.4)	Evokes positive emotions about the present or goals for the future (e.g., avoiding drugs to do well in sports or go to college).	(Poster) "___ Middle School: Not Afraid to be Healthy, Happy and Drug FREE!!" Displays pictures of groups of students having fun and doing extracurricular activities.

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TABLE 1

kiR Resistance Strategy Across Message Structure and Mediums

	Resistance Strategy Use [Poster(P), Radio(R), Video(V)], Total Message Units (68)											
Type of Message	**"Refuse"**			**"Explain"**			**"Avoid"**			**"Leave"**		
Didactic	19			19			22			21		
	P	R	V	P	R	V	P	R	V	P	R	V
	13	6	0	13	6	0	15	7	0	14	7	0
Narrative	12			11			11			13		
	P	R	V	P	R	V	P	R	V	P	R	V
	3	2	7	2	1	8	3	2	6	2	1	10
Total	31			30			33			34		
	P	R	V	P	R	V	P	R	V	P	R	V
	16	8	7	15	7	8	18	9	6	16	8	10

TABLE 2

Social Influence Strategy Across Message Structure and Mediums

	Social Influence Strategy Use [Poster(P), Radio(R), Video(V)], Total Message Units (68)																				
Type of Message	**Rational**			**Negative Consequences**			**Peer Pressure**			**Fear**			**Identity**			**Modeling**			**Goal Achievement**		
Didactic	16			14			7			17			18			2			15		
	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V
	11	5	0	10	4	0	3	4	0	15	2	0	15	3	0	2	0	0	12	3	0
Narrative	15			19			21			15			15			15			7		
	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V
	1	2	12	3	3	13	3	4	14	1	2	12	1	2	12	4	2	9	1	0	6
Total	31			33			28			32			33			17			22		
	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V	P	R	V
	12	7	12	13	7	13	6	8	14	16	4	12	16	5	12	6	2	9	13	3	6

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