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ESSAY



Engagement with Adolescent Substance Prevention Messages: Impact and Dissemination of REAL Media

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ABSTRACT

This article reviews the development and testing of a youth substance prevention program, REAL media. The contributions of this body of research include theoretical development, measurement, and dissemination of an efficacious independently evaluated program. Special attention is given to the impact of the program through collaborations with multiple community groups and multiple phases of development and testing.

Adolescent substance use and initiation both remain challenging health promotion arenas. The specific substances used and delivery mechanisms employed by youth continue to evolve, such as with emerging and changing vaping trends. This article examines the impact and dissemination of one communication-focused adolescent substance prevention program, REAL media (REAL Prevention, *n.d.*), developed as a collaboration between Rutgers University (Kathryn Greene) and REAL Prevention LLC (Michael Hecht). One national substance prevention intervention registry (National Registry of Evidence-based Programs and Practices/NREPP; SAMHSA) previously listed individual programs that are evaluated to be evidence-based (e.g., demonstrate effectiveness); the list included this program. REAL media was funded (2010–2019) by a series of grants from the National Institute on Drug Abuse (NIDA), and it includes more than a decade of research that has developed, refined, and tested the REAL media program and the underlying theoretical framework that uses an active engaging program component.

REAL media is an active involvement intervention for middle- and high-school-age youth that has been tested and disseminated throughout the U.S. collaborating with multiple community partners. REAL media consists of five lessons using didactic media literacy advertising message components that are focused on message analysis and an active message planning component wherein youth develop and disseminate their own prevention messages. Self-paced levels are individually completed, scaffolded in sequence, and delivered online (i.e., a web-based application) so that users can progress at their own speed. All levels have optional “paths” where users can choose to supplement the program with additional examples of a concept or additional interactive activities, and each level culminates with a review “challenge” that is designed to maximize engagement. Level one presents media and advertising, covering issues such as media ethics and advertising costs. Level two introduces the concept of a target audience and overviews four persuasive strategies used in advertising

(under the acronym FUSE that summarizes the strategies: fun, unexpected, style, and endorsement). Level three focuses on evidence and claims used in alcohol, tobacco, and other drug (ATOD) messages as well as counterarguments that can be applied to refute messages and claims. Level four covers production techniques used in making advertisements, including visuals, characters, setting, and sound (under the acronym ViCSS). Finally, level five culminates with the planning and production of an anti-substance message in which youth are guided in the application of the content learned in prior levels and engage with an active involvement message planning and creation process. These youth-developed messages are then submitted to an online contest hosted via social media or some alternate competition. Youth are encouraged to have their peers view and vote on their messages, with the resulting messages thus “youth reviewed.”

In the five lessons, the REAL media curriculum aims to increase adolescents’ knowledge of advertising techniques used to sell ATOD products, develop counter-arguing and critical-thinking skills in response to commonly encountered messages that endorse these products, and help youth apply these skills in the creation of anti-substance use messages that they submit to a social media contest. The development of the program included conceptual as well as practical and engaging advancements that are described next.

The online multi-substance prevention REAL media version was adapted from an evidence-based face-to-face version (Youth Message Development, YMD, see Greene et al., 2016) that was iteratively developed and tested both in middle school settings with smoking and tobacco advertising (Banerjee & Greene, 2006, 2007, 2013) and in a state-wide youth leadership program with an alcohol advertising focus (Banerjee et al., 2013, 2015; Greene et al., 2015, 2016, 2020). The YMD curriculum was adapted to create REAL media with a focus on ATOD (Ray et al., 2019). REAL media was iteratively developed across multiple years and phases (Ray et al., 2019) in collaboration with 4-H, a large youth development program in

the U.S. The developed REAL media version was based on the theory of active involvement (Greene, 2013) and then tested in a series of studies to establish efficacy and effectiveness (Greene et al., 2020, 2021).

After establishing the evidence base for the program, we developed several versions of REAL media for various youth organizations. A version branded REAL messages was developed for the Drug Abuse Resistance Education program, commonly known as D.A.R.E., with D.A.R.E. officers facilitating the online program in groups such as classrooms. This D.A.R.E. version was collaboratively adapted to meet the organization's needs for content addressing the fast-changing youth media landscape. Another version, REAL media-O, was developed with the Georgia Department of Public Health (Opioid and Substance Misuse Response Program), and this version was available for Georgia youth organizations in the summer of 2019. The modifications for REAL media-O entailed including pain medication messages and opioid cessation/treatment messages in addition to changing the active involvement message planning activity to include opioid prevention message planning/production. The REAL media and theory of active involvement framework has also been used to develop a youth smoking cessation intervention curriculum #*Smokefree* in Belgium (see De Keyzer et al., [in press](#)). This program extends REAL media to follow how youth post their prevention messages on their own social media channels rather than using a contest hosted solely for the program on one site. This extension more closely parallels current youth social media use, but a comparison of a sponsored contest and youth social media would be a valuable contribution to examine the impact and spread of the youth developed and youth reviewed prevention messages.

Several articles have analyzed the youth created messages produced by these programs (e.g., Banerjee et al., 2013; Peña-Alves et al., 2019), including their online distribution (Mandal et al., 2021). These analyses are significant because they capture how youth conceptualize persuading their peers, a format of input that is generally underutilized in program development.

Theoretical development

One promising arena of communication research in this substance prevention as well as youth focused context are programs that use active involvement components (Greene & Hecht, 2013; Greene et al., 2017), with REAL media as one example of such a program. There are several types of active involvement interventions (AII) developed in the past few decades, some programs where AII is one portion of a larger intervention and others where an AII component is the main focus or primary strategy of an intervention (Greene et al., 2017). Much of the earlier research in the area of active involvement interventions lacked theoretical understanding of how and why youth creating prevention messages during an intervention would lead to individual attitudinal and behavioral changes. Two theoretical approaches emerged that explain how youth involvement in message development can lead to sustained behavior change: the narrative engagement theory (NET; Miller-Day & Hecht, 2013) and the theory of active

involvement (TAI; Greene, 2013). The NET framework was foundational for REAL Prevention's *keepin' it REAL* substance use prevention program that was reviewed in Hecht et al. (2010) and other research (e.g., Leader et al., 2022; Miller-Day et al., 2015; Shin et al., 2023). Thus, we focus on TAI and REAL media in this article. For TAI, the cognitive processes of change are articulated based on exposure to an engaging intervention such as REAL media. The phases of the change process include creating engagement (through arousal and involvement), then affecting short-term outcomes (e.g., knowledge and skills), then increasing reflection through perceived discrepancy, next affecting cognitions (norms, target expectancies, intentions), and finally influencing longer term outcomes of target behavior such as substance use. This framework grounded the development of REAL media and measurement of impact in the randomized clinical trial or RCT (see Greene et al., 2020, 2021).

Both TAI and NET propose that youth involvement in message development is key to behavior change because AII heighten engagement with the messages planned and then created in various formats by the youth themselves. This process of youth involvement produces changes in targeted outcomes (message processing, cognitions, behaviors, and interpersonal communication) among the youth who are creating the messages. The similarity in both TAI and NET lies in the focus on youth engagement, considered to be a key mechanism in the process of promoting change. Differences between these approaches include the broader processes of behavior change described. Based on both approaches, offering adolescents opportunities to engage in creating the intervention, such as through generating campaign materials or prevention messages, could increase engagement and improve the intervention outcomes.

The REAL media project has produced research findings about the processes underlying adolescent drug use (e.g., interpersonal outcome effects; Banerjee et al., 2015), health message design (e.g., Greene et al., 2020), formative research involving communities (e.g., Greene et al., 2016; Ray et al., 2019), and methodological approaches (e.g., measuring engagement, Greene et al., 2015, 2021). The findings for operationalizing engagement (see Greene et al., 2021) are significant for advancing how researchers conceptualize engagement as well as how to capture data to demonstrate varied forms of program effectiveness that move beyond intervention liking and program perceptions broadly.

Dissemination of the research and impact

REAL media has been disseminated through community groups, including but not limited to D.A.R.E. and 4-H. We partnered with schools, youth leadership programs, and community groups to develop REAL media. After this, we worked with D.A.R.E. America to adapt a version for their use, renamed REAL messages, as a part of a comprehensive drug prevention curriculum for high-school students. We met collaboratively with D.A.R.E. to rebrand and identify other needed organization-specific changes. Finally, to support all versions of REAL media, ongoing revisions occur to update

content, social media, and technical system maintenance needed to provide use of any online program.

REAL media is distributed at the 4-H marketplace and through REAL Prevention LLC, with the REAL messages version distributed through D.A.R.E. Unfortunately, the D.A.R.E. version was discontinued after resistance from the police officer implementers to the online format. In addition, the dissemination through 4-H and REAL Prevention was initiated just as the COVID epidemic began, inhibiting uptake. REAL Prevention continues to fill orders for REAL media and respond to inquiries, albeit fewer than desired. These dissemination issues speak to the difficulty of taking interventions to scale in a changing landscape of education and community involvement.

How to assess impact

This article focused on one active involvement intervention to prevent and reduce adolescent substance use, a line of research with a solid evidence-base that continues to expand as AII programs are developed, tested, and disseminated. YMD, the REAL media precursor, was identified evidence-based effective on SAMHSA's NREPP list for several years (2017 on) when SAMHSA's NREPP listed individual programs. Thus, one indicator of impact, beyond the dissemination and adoption of REAL media, is the independent evaluation of quality. Also, relevant would be the theoretical contributions such as TAI, beyond the heuristic value that is seen when other research teams (e.g., Catona, 2015; De Keyzer et al., *in press*) extend aspects of the program. Thus, we argue that dissemination and adoption, as well as listings in independent intervention review websites like NREPP or others, such as CDC, are primary indicators of impact for health communication research. Taking interventions to scale raises challenges that we should continue to explore and document (see Hecht & Lee, 2013; Miller-Day et al., 2015; Norris et al., 2021). Any and all of these indicators of impact go beyond the number of citations or publications. We also point to the cross-disciplinary patterns in impact for this YMD/REAL media program that extend the impact across audiences – both community-based audiences who may utilize the program and varied academic disciplines. Across time, we can also hope to find evidence for impact on target behaviors such as delayed initiation of ATOD use in adolescents.

The development, evaluation, and evaluation of REAL media and its predecessor, Youth Message Development, reflect many of the goals of communication research. Although sometimes narrowly defined as “applied” research, this body of work has resulted in the development and testing of communication theories such as TAI and NET. Moreover, it demonstrates the significant contribution of community-based communication research and the salience of the REAL Prevention dictum of developing interventions with and for the end user. As communication continues to mature as a discipline, it is our hope that more of the field's work will be judged by its public and community impact, including both theoretical (i.e., development, application, and testing of new theories) and practical (i.e., reduction of substance use) rather than other limited metrics.

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