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"Yo! This is no lie, if you smoke, you die": a content analysis of anti-smoking posters created by adolescents

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Abstract

Introduction: Exposure to anti-smoking messages is strongly associated with lower smoking initiation by adolescents. However, few anti-smoking efforts have involved message generation by adolescents themselves. This article presents a content analysis of anti-smoking posters created by middle school students in two northeastern schools in the United States. Understanding how smoking prevention messages should be framed from the perspective of young teens will provide us with formative information about what kinds of smoking prevention messages teens believe are effective.

Methods: 50 anti-smoking posters created by adolescents (11–14 years) were content analysed, with a focus around three broad areas: effects of smoking portrayed in posters, specific ways of message depiction in posters and use of slogans.

Result: Results of content analysis reveal that appearance-related factors (44%) were most commonly used to convey harmful health effects of smoking, followed by messages about death and dying (30%), before–after effects of smoking (22%), other sickness-related effects of smoking (20%) and cancer (12%). Supplemental thematic analysis revealed that in a majority of posters pictures were exaggerated and were dominant part of the posters.

Discussion: These results provide information about anti-smoking messages/themes perceived as efficacious by young adolescents and have implications for developing anti-smoking messages for adolescents.

Keywords: *Adolescents, posters, prevention, smoking.*

Introduction

Tobacco use is the leading cause of preventable death and is estimated to kill more than six million people each year worldwide (World Health Organization, 2011). Even in the United States, cigarette smoking remains the leading cause of preventable morbidity and mortality among all ethnic groups [US Department of Health and Human Services

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(USDHHS), 2004], and more than 80% of smoking initiation occurs before 18 years of age [Substance Abuse and Mental Health Services Administration (SAMHSA), 2009]. Each day in the United States, approximately 3900 adolescents between 12 and 17 years of age initiate cigarette smoking, and an estimated 1000 adolescents become daily cigarette smokers (SAMHSA, 2009). Data from the 2009 National Youth Tobacco Survey indicate that whereas 5.2% of middle school students and 17.2% of high school students reported current use of cigarettes, susceptibility to initiate cigarette smoking was 21.2% in middle school students and 24.0% in high school students (Centers for Disease Control and Prevention, 2010). Thus, delaying the initiation of smoking may have significant public health benefits worldwide (Rohde et al., 2003), and interventions aimed at interrupting smoking initiation may be significant and timely.

One noteworthy campaign that has empowered young people is the national "truth" campaign targeting 12–17 year olds primarily through counter-marketing messages that focus on the tobacco industry's deceptive marketing practices and efforts to deny the health risks of smoking (Farrelly et al., 2005). During its conception stage, the campaign involved youth for inspiration, guidance and feedback (Hicks, 2001). Using discrete-time survival analysis to assess the influence of the truth campaign on smoking initiation, Farrelly et al. (2009) reported that exposure to the "truth" campaign lowered the risk of youth smoking initiation from 2000 to 2004, and approximately 450,000 adolescents did not try smoking nationwide. This research demonstrates the success of the truth campaign in the United States and suggests the importance of involving youth in anti-smoking prevention efforts. Although the results do not clearly reflect that youth involvement was key to campaign success, truth was one of the very few campaigns that involved youth in campaign design, as Hicks (2001) notes:

> Two months after being hired, we convened a 500 person youth summit to gain insight into where youth felt the effort should head. Through annual summits and the creation of a youth review board, youth became our client. They told us what they did and did not like and provided feedback to help guide the creative process.

This article presents a content analysis of posters created by middle school students as part of an anti-smoking media literacy intervention (details of the intervention are presented in Banerjee & Greene (2006, 2007)). Prior content analysis research on anti-smoking messages has focused on anti-smoking television ads and public service announcements (e.g. DeJong & Hoffman, 2000; Beaudoin, 2002; MacKenzie et al., 2009; Rhodes et al., 2009; Lee & Cheng, 2010). For instance, DeJong & Hoffman (2000) found that tobacco industry practices, health consequences for smokers and smoking prevention were dominant themes in most of the television advertisements for the Massachusetts Tobacco Control Program Media Campaign, from 1993–1996. Beaudoin (2002) examined the relationships between ad characteristics and whether ads have a youth or adult orientation based on a content analysis of 197 American anti-smoking television advertisements produced between 1991 and 1999. The results documented that youth-oriented ads had youth characters, sociability and humour as common appeals and social and short-term consequences. In contrast, adult-oriented ads relied on fear appeals and long-term, health-related consequences. MacKenzie et al. (2009) reported that three in four tobacco-related disease news reports on Australian television focused on lung cancer while other cancers and smoking attributable diseases were modestly covered. We found that there exists a deficit in terms of understanding how anti-smoking ads have been framed in print. In this article, we take a different perspective

to analyse anti-smoking messages and focus on examining anti-smoking posters created by adolescents. Understanding how smoking prevention messages should be framed from the perspective of young teens will provide us with formative information about what kinds of smoking prevention messages teens believe are effective.

Method

Sample

The sample consisted of 50 anti-smoking posters created by 144 middle school students (11–14 years; grades 6–8; two northeastern schools in the United States) as part of an anti-smoking media literacy intervention (delivered by the first author). Working in groups of about three students, each group was instructed to discuss the best way of presenting a message about not smoking to students their age and younger and present it in a form of a poster. In particular, the students were instructed,

> If someone does not support smoking and thinks it's a bad idea, what would an ad look like? Your project for today is to create such an ad that shows some arguments about smoking that are missing from cigarette ads. Your poster should be made in a way that the message reaches students your age and also those younger than you.

The groups were then given poster-size paper and coloured markers.

Qualitative content analysis

Our qualitative content analysis included a mixed-methods approach utilizing both inductive and deductive approaches. Using a deductive approach, we first created a "health effects of smoking" category based on the four US Surgeon General's warnings about the health hazards of smoking (Federal Trade Commission, 1984). Following that, we developed additional coding categories directly and inductively from the raw data (Hsieh & Shannon, 2005). Once we had a list of categories, we grouped the categories into higher order headings (Burnard, 1991) such as effects of smoking, smoking message depiction and slogans. As a next step, we conducted a summative content analysis, which started with the counting of manifest content, including both images and words. Hsieh and Shannon (2005) cautioned that although this approach seems quantitative in the early stages, its goal is to explore the usage of the words/themes in an inductive manner. Finally, in order to address additional themes that we had not captured in the content analysis, we conducted a post-coding thematic analysis to supplement the content analysis.

Coding scheme

The content analysis in this study was focused around three broad areas: effects of smoking portrayed in posters, tools for message depiction used in posters and use of slogans. In particular, coding captured the presence (0 = absent, 1 = present) of effects of smoking (including health effects of smoking – cancer and other sickness, appearance-related effects of smoking, emotional effects of smoking, death and dying and other miscellaneous messages about smoking), message depiction (through words, pictures, people, colours, humour) and use of slogans (which was further qualitatively analysed).

Health effects of smoking. Coders indicated whether posters displayed any of the four US Surgeon General's warnings about the health hazards of smoking that are mandated by the Federal Trade Commission to appear on all cigarette packages and advertising, that is, lung cancer, bronchitis, emphysema and coronary heart disease (Federal Trade Commission, 1984). For simplicity of messages for middle school students, we coded for the appearance of the words cancer or other sickness due to cigarette smoking (including appearance of black lungs in pictures but no mention of cancer, a person lying on hospital bed and impotence).

Appearance-related effects of smoking. Coders indicated whether posters displayed messages related to appearance effects of smoking such as black and/or yellow teeth or wrinkled skin. These characteristics were coded for separately, but due to low frequency were combined for description purposes.

Emotional effects of smoking. Coders indicated whether the poster included messages about emotional effects of smoking such as sadness, crying, isolated or loneliness. These characteristics were coded for separately, but due to low frequency were combined for description purposes.

Death and dying. Coders indicated whether the poster included messages about death (depicted through the presence of tombstone, grave, dead person or RIP sign) or grief, depicting that family/friends/close ones are grieving the death of the smoker. These characteristics were coded for separately, but due to low frequency were combined for description purposes.

Other miscellaneous messages about smoking. Coders indicated whether messages such as before–after effects of smoking, second-hand effects of smoking or listing of harmful ingredients in cigarettes were used to convey other messages about smoking. These characteristics were coded and reported separately.

Smoking message depiction. Coders indicated the tools for message depiction used in posters, including use of pictures (any kind), words (written words to depict the message) or use of both pictures and words. There were no posters that used only pictures or words, so data on use of both pictures and words are included. Additionally, coders indicated if people were depicted in the posters, using either human forms or stick figures; use of colour to depict the anti-smoking message including use of multiple colours or grey and black tones exclusively; use of humour to depict the anti-smoking message (e.g. the smoker looks like a butt, kissing a smoker is like licking ash).

Slogan. Coders indicated whether the poster had a stand-alone slogan/message that conveyed meaning without reference to pictures or images in the poster.

Coding procedures

In this study, the unit of analysis was the anti-smoking poster created by middle school student groups. Four coders, blind to research questions, coded all posters. They were trained on four sample posters created for training purposes. The training sessions included group discussions about the meanings and nuances of the coded variables (Nelson & Paek, 2005).

Table I. Krippendorff's α and characteristics (frequency and percentage) of 50 anti-smoking posters created by adolescents

Characteristic	Krippendorff's α	Frequency in posters, *n* (%)
Effects of cigarette smoking		
Cancer	1.00	6 (12)
Sickness-related effect	0.96	10 (20)
Appearance-related effect	0.94	22 (44)
Emotional-effects	0.80	4 (8)
Death and dying	0.95	15 (30)
Other messages about smoking		
Warning about ingredients	0.84	4 (8)
Before–after comparison	0.94	11 (22)
Second-hand effects	0.85	3 (6)
Depiction of message		
Human figures	0.97	40 (80)
Pictures and words	1.00	49 (98)
Slogans	0.74	27 (54)
Multiple colours	0.74	42 (84)
Grey	0.96	8 (16)
Humour	0.87	5 (10)

We utilized Krippendorf's α to calculate intercoder reliability (Krippendorff, 2004a, b). Krippendorff's α should be above 0.8, with values above 0.7 considered acceptable for studies that require agreement of multiple observers/coders (Lombard et al., 2002).

All reliability coefficients for each coded variable exceeded acceptable levels, with values ranging from 0.74 to 1.00 (see Table I). The disagreements were resolved by further discussions among coders, resulting in 100% agreement. This article presents primarily descriptive data analysis, given the usefulness of description in the early phases of research in a given topic area (Riffe et al., 1998). Additionally, supplemental qualitative analysis is provided.

Results

Descriptive results

The results of the content analysis reveal that appearance-related factors (44%) were most commonly used to convey harmful effects of smoking, followed by messages about death and dying (30%), before–after effects of smoking (22%), other sickness-related effects of smoking including appearance of black lungs in images but no mention of cancer, a person lying in a hospital bed, impotence, emphysema, asthma, heart disease and birth defects (20%) and cancer (12%). Messages about emotional effects of smoking (8%), warning about ingredients present in cigarettes (8%) or second-hand effects of smoking (6%) were minimally used to convey anti-smoking messages. In terms of message depiction, results reveal that all but one posters used both words and pictures (98%) to depict the message, and most of the posters used human figures (80%) and were constructed with multiple colours (84%). About half the posters had a stand-alone slogan (62%), where reference to pictures or images in the poster was not needed to understand the message. Figures 1 and 2 present examples of posters made by students.
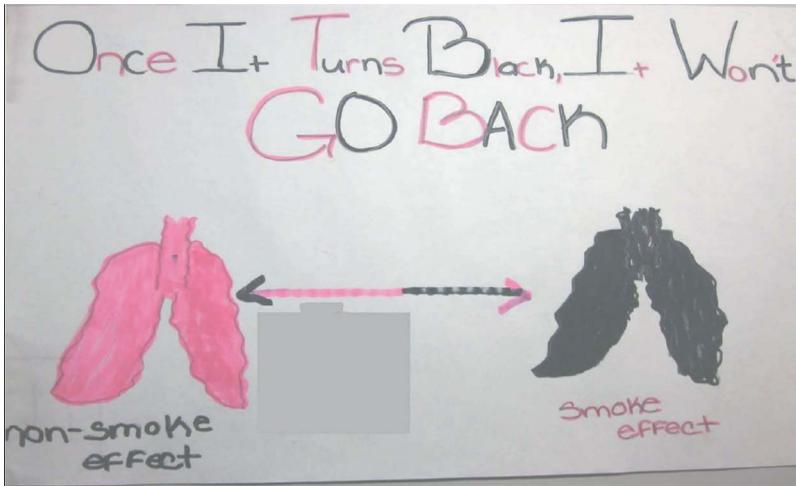
Figure 1. Example poster 1.
Note: The grey block on the poster contained student names and were deleted from the poster.

Figure 2. Example poster 2.

Supplemental thematic analyses

Post-content analysis, our supplemental thematic analysis identified three additional themes that were common to a majority of the posters. We elaborate on these three trends below, and they include (i) pictures dominated the posters, with slogans and/or messages usually written prominently at the top or bottom of the poster; (ii) pictures were exaggerated and

dramatic (possibly for attention-grabbing purposes); and (iii) the posters primarily highlighted consequences of smoking but did not illustrate smoking refusals (one exception) or smoking cessation issues. For instance, one poster had a large picture of a boy smoking (utilizing three-fourths of the poster vertically), with his black lungs highlighted and visible from outside and at the top "Smoking can lead to bad health." The dominant part of the poster was the picture and message was written in the top portion. The picture was exaggerated with completely black lungs visible from the outside, and the poster highlighted consequences of smoking. Another poster displayed a large mouth with black lips and yellow and stained teeth occupying two-thirds of the space, with the words "This is how a smoker's mouth looks like" written at the top. Again, the dominant part of the poster was the dramatic picture. The objective of the poster was to highlight negative appearance consequences of smoking. To present other examples, another poster showed a large black grave surrounded by green grassy ground littered with cigarette stubs and a Marlboro cigarette pack on the ground. The message on the grave read – In loving memory of "a smoker". The message at the top said, "This could be you." In this poster, the picture dominated the poster space with the message embedded within the picture as well as highlighted at the top. It was an exaggerated picture, and the poster highlighted extreme negative health consequences of smoking. Finally, as a last example, one poster vertically displayed a picture of a pregnant woman smoking a cigarette and the fetus inside her stomach also smoking a cigarette. The words at top were "How old were you when you started smoking?" This poster had a dominant picture that emphasized prenatal smoking effects. Overall, the pictures had a dominant role in a majority of the posters and were generally there to emphasize the stand-alone slogan or message of the poster. The objective of most of the posters was to convey consequences of smoking.

Qualitative analysis of slogans. The slogans used in the posters were analysed for themes of messages inductively and were then grouped into higher order groupings or broad categories: do not smoke messages, health effects warnings, humour and other effects (including social effects and second-hand effects). Table II presents a categorization of slogans used in posters with do not smoke and health effects dominating slogans. Do not smoke messages included specific statements about not smoking, such as "Don't smoke; It is bad," "Say no to smoking," "Don't ever smoke" and "Cigarette free is the way to be." Health effects warnings conveyed that cigarettes are not safe and may have adverse health effects. These health effects messages included slogans such as "Your lung: Once it turns black, it won't go back," "Yo! This is no lie, if you smoke you die!," "If you smoke, you will choke" and "Death: Your anti-smoke." Humorous messages were less frequent and included attention-grabbing efforts using humour about smoking, such as "Kissing a smoker is like kissing a frog," "She doesn't want to kiss your butts!" and "Marlboro dead man invites you to flavor country." Finally, the miscellaneous category or the other types of messages included slogans such as "My smoke can kill you too" and "The one who smokes is the center of jokes" emphasizing second-hand effects of smoking and social effects of smoking, respectively. There were differences in these slogans, but no sub-themes were widely represented.

Conclusions

This study presents a content analysis of anti-smoking posters created by adolescents and adds to the content analysis literature on anti-smoking messages (MacKenzie et al., 2009;

Table II. Categorization of all slogans used in posters ($N = 31$)

Slogan Categories	Examples
Do not smoke ($n = 11$, 35%)	"Puff is not the stuff"
	"Say no to smoking"
	"Don't ever smoke"
	"Don't be a joke . . . Don't smoke!"
	"Don't joke about smoke!"
	"Bend the trend . . . and live to the end!"
	"Cigarettes free is the way 2 B!"
	"Choose the road: Smoke or Not Smoke"
	"Don't Smoke. It is Bad"
	"Don't smoke, smoking is bad 4U"
	"Don't smoke or you'll choke"
Health effect warnings ($n = 10$, 32%)	"R.I.P. Next time you'll know better not to smoke"
	"If you smoke you will choke"
	"Your Lung: Once it turns black, it won't go back"
	"Smoking can lead to bad health"
	"Smoking – It will catch up to you!"
	"Cigarettes, they kill"
	"Yo this is no lie, if you smoke you die!"
	"DEATH your anti-smoke"
	"You smoke you die"
	"30 years to six feet under after smoking 100 miles of cigarettes"
Humour ($n = 4$, 13%)	"Kissing a smoker is like kissing a frog"
	"Kissing a smoker is like licking your butt"
	"She doesn't want to kiss your butts!"
	"Marlboro dead man invites you 2 flavor country"
Other miscellaneous ($n = 6$, 19%)	"My smoke can kill you too"
	"The one who smokes is the center of jokes"
	"Alive with pleasure! . . . 16 going on 60!"
	"You snooze you lose!!"
	"There's no such thing as a safe cigarette"
	"Go to school . . . smoking isn't cool!!"

Rhodes et al., 2009; Lee & Cheng, 2010). There are three major conclusions from these data. First, from the perspective of young adolescents, messages about appearance-related effects of smoking, death and dying, health-effects of smoking and before–after effects of smoking may resonate well with others their age or younger. These messages, coming from adolescents themselves, may be effective anti-smoking messages, but we cannot conclusively say this without evidence. The Food and Drug Administration (US Food and Drug Administration, 2011) in the United States has released a statement that from September 2012, it will require larger and more prominent cigarette health warnings on all cigarette packaging and advertisements in the United States. It will be interesting to examine how these warnings compare to what adolescent believe to be effective anti-smoking messages and could be explored in future research. Also, given that the pictures dominated a majority of the posters, creativity in anti-smoking messages may be key in capturing adolescent attention. Second, in terms of message depiction, use of multiple colours and human figures are better suited to clarity of message depiction. Third, slogans may be utilized for sending the anti-smoking message and stand-alone, catchy slogans may be picked up more readily by adolescents. Given that we did not ask the participants to frame a slogan, we found it

interesting that they created slogans to put forth their anti-smoking messages succinctly. We live in a media-saturated environment (Kubey et al., 2011) and anti-smoking catchy slogans may be broadcast on radio as a component of comprehensive anti-smoking efforts.

Our findings have implications for anti-smoking efforts for young adolescents. This study provides information about anti-smoking messages/themes perceived as efficacious by young adolescents. Empirically, it still needs to be examined if these anti-smoking messages can be efficacious with adolescents and an avenue for future research. The findings of this study resonate with recent research investigating motives of adolescents for remaining non-smokers. Content analysis of motives suggests that extrinsic reasons (restrictions, smoking bans) do not seem to be relevant for adolescents. However, motives concerning health, good physical shape and beauty are important deterrents from smoking and should be studied further in anti-smoking efforts (Schneider et al., 2010). Given that we created our coding categories both deductively and inductively, we did not find messages regarding smoking bans or restrictions, but a majority of slogans were framed as "do not smoke" messages. These findings imply that telling adolescents clearly to "not smoke" may be a useful strategy, but may also induce psychological reactance or resistance (Worchel & Brehm, 1970) due to the didactic nature of "do not smoke" and should be examined in future research.

There are limitations to this study. We asked students to create anti-smoking messages that they thought will be effective with someone their age or younger. It is possible that the students think other types of messages may be more effective, but were limited in their ability to depict those messages given the time restriction (a class period). Also, we asked students to create anti-smoking posters. However, anti-smoking messages in other forms such as anti-smoking public service advertisements on television, radio or Internet may be more efficacious in sending anti-smoking message across to adolescents. Given these limitations, this study still points to key message themes that may be tested in adolescent anti-smoking efforts, as well their utilization in other forms of media needs further consideration.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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