What Makes Adolescent-Targeted Anti-Tobacco Advertisements Effective?
A Systematic Review and Qualitative Analysis

By
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Chapel Hill
2004

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Abstract

Context: In the CDC’s 2003 YRBSS report, 25% of North Carolina adolescents smoked a cigarette in the last month, slightly higher than the national average of 22%. Evidence is growing that mass media campaigns can reduce adolescent smoking, especially when used in combination with other programs. Objective: This project has two objectives. First, this project aims to determine what dimensions of an adolescent-targeted anti-tobacco advertisement are the most effective at preventing adolescent smoking. Second, this project aims to develop ideas that would target the North Carolina adolescent population.

Design: The study consists of three phases: a systematic review, expert interviews, and a Photovoice study of the smoking-related cancer population. The systematic review utilized three search strategies: (1) journal databases, (2) the snowball technique, and (3) recommendations from expert interviews. Any study was included in the review if it evaluated the effectiveness of a dimension of a television advertisement in influencing the smoking behavior, intentions to change smoking behavior, attitudes about smoking, recall of advertisements, or perceived effectiveness of advertisements in young people less than 18 years of age. Experts for the interviews were selected from the research and based on local expert recommendations. They were interviewed using a standardized interview process. The Photovoice project utilized the PAR approach to develop potential ideas for the North Carolina Anti-tobacco Campaign. The results from both of these phases were analyzed using ATLAS-ti.

Participants: One participant, a laryngectomy survivor, volunteered for the Photovoice project.

Results: Five dimensions were found to be critical for advertisements: Production quality, Theme, Format, Emotional Tone, and Actor Characteristics. The serious health consequences theme, testimonial format, and real actor were the most effective means of targeting adolescents. The Photovoice developed ideas along these dimensions and revealed that concern of water and loss of voice would make effective anti-tobacco messages.

Conclusions: This project provides evidence-based advertisement recommendations and outlines a theoretical framework for the development of an effective, adolescent-targeted anti-tobacco mass media campaign.
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Section 1: Introduction

Background

North Carolina adolescents smoke at a rate slightly higher than the national average. In the CDC’s 2003 YRBSS report, 25% of North Carolina adolescents smoked a cigarette in the last month, compared with the national average of 22%. This increased rate highlights the desperate need for the state to provide an effective mass media campaign to reduce adolescent smoking.

To combat the threat of adolescent smoking, many state and national anti-tobacco campaigns use mass media to discourage youths from using tobacco. Evidence is growing that these campaigns reduce adolescent smoking, especially when used in combination with other programs.

In mid-2003, the North Carolina Health and Wellness Trust Fund (H&WTF), entrusted with resources from the Tobacco Master Settlement, set out to develop an adolescent-targeted tobacco prevention mass media campaign to compliment the previously existing school and community programs. As the first step of the 2004 campaign, they approached the Tobacco Prevention Evaluation Program (TPEP) to provide a systematic review of the literature to determine the most evidence-based means of reaching the North Carolina adolescent population through mass media. More specifically, they wanted to know:

What dimensions of an adolescent-targeted anti-tobacco advertisement are the most effective at reducing adolescent smoking?

In order to answer this question, this project was designed into three phases: a systematic review, expert interviews, and a smoking-related cancer survivor Photovoice project.

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Systematic Review

In the first phase, a systematic review of the public health, marketing and business literature was undertaken. Its primary goal was to answer the research question stated above. While this review aimed to find the best current evidence on the topic, its ancillary goal was to determine gaps and contradictions within the literature.

This review revealed a great deal about what makes an adolescent-targeted anti-tobacco advertisement effective, but several gaps emerged. These gaps included the following questions:

1.) Using the current evidence, how can a mass media campaign be tailored to North Carolina adolescents?
2.) How can priority subgroups such as African Americans, Latinos, and American Indians be specifically targeted?
3.) Why are there multiple contradictions within this research area?
4.) What are the most effective ads, those that use cartoons, actors, or real people?

Expert Interviews

The second phase of this project included detailed interviews with experts in the field of adolescent-targeted tobacco prevention mass media campaigns. This phase was necessary for four reasons. First, this phase would fill in the knowledge gaps that existed after the systematic review. It would determine how to tailor the campaign toward the North Carolina adolescent audience, how to effectively target priority subgroups, explain the contradicting areas of research, and determine what are the most effective actors – cartoons, actors or real people.

The expert interviews were not only organized to fill in the gaps of knowledge, but also determine if the expert opinions agreed with the experimental data collected in the systematic review. The interviews served as a way of double-checking the results of the review.

The third goal was to discuss the political feasibility of the campaign. Since North Carolina is a leading tobacco-producing state, the members of the

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TPEP team were concerned that some campaign strategies that cast tobacco companies in a poor light would be politically unfeasible. The expert interviews served as a means of determining if these issues would be important for the North Carolina campaign, and develop strategies to avoid any potential problems.

Finally, this project would add qualitative research to the quantitative research of the systematic review. As discussed in Tashakkori and Teddlie, a mix of qualitative and quantitative measures increase the breadth of any research and also ensures that a study is not missing any significant findings that may be overlooked if investigators use only one research style.

**Smoking-Related Cancer Survivor Photovoice Project**

The third phase of this project attempted to assemble smoking-related cancer survivors, and using a Participatory Action Research method called Photovoice, this phase aimed to answer the remaining questions. However, only one smoking-related cancer survivor was able to participate. Nevertheless, this phase of the project had three basic goals.

**Goals of Project**

The results from the systematic reviews and expert interviews revealed that the serious health consequence of smoking theme was a very effective theme for anti-smoking messages. The third phase aimed to use this smoking-related cancer survivor to discover riveting serious health consequences of smoking. From the results of this project, the media vendor could develop an evidence-based, adolescent-targeted, anti-tobacco advertisement.

The expert interviews revealed that real people with real stories were the most effective at delivering the anti-tobacco message. Furthermore, it would target North Carolina youth especially if the campaign used a North Carolina figure. During this phase, project coordinators aimed to provide the campaign with such a figure.

This project is based on the tenets of Participatory Action Research. One of the most important functions of this research style is to encourage the study
population to take action. This project aimed to encourage smoking-related cancer survivors to promote and advocate for adolescent smoking prevention.

**PAR and Photovoice**

George et al. describes Participatory Action Research (PAR) as a “systematic investigation, with the collaboration of those effected by the issue being studied, for purposes of education and taking action or effecting social change.” This research is not a methodology, but rather an approach, which attempts to minimize the differences between researcher and participant. In addition, it attempts to investigate questions, but also empower the population with the desired end result being action.

Photovoice is a methodology that uses a qualitative research approach. Wang et al. describe Photovoice as “a PAR method by which people create and discuss photographs as a means of catalyzing personal and community change.” In this methodology, participants are asked develop photo-assignments that will help to answer the research question, take photographs that illustrate that assignment, and discuss the photographs in order to come to a new understanding of the topic.

**Other Components of the Smoking-Related Cancer Survivor Project**

One of the tenets of the PAR approach is that there is no power differential between researchers (or project coordinators) and participants. While this leads to a broader, more ethical result of the research, the researcher also looses a great deal of control that would occur in other research designs. While the project coordinators aimed to fulfill the goals of the project, it was just as important to attend to the goals of the participant. As a result, the results presented in this report are simply a part of a broader project involving smoking-related cancer survivors.

**Benefits of Photovoice in the Research Area**

Photovoice has the potential to be a pivotal research tool in this area for three main reasons. First, the systematic review and expert interviews revealed
that one population – the older population that smoked and developed the serious health consequences of smoking – were not present in any research in this area. All research used adolescents as the study population. It was theorized that this older population would be critical to explore in any complete study of this area because they were the population that this campaign is hoping to target.

Second, this method is visual research. Since the potential application of the results is in visual media, the Photovoice method serves as an excellent means of stimulating the creative process in the participant population and the media vendors who will view the research results.

Third, like the expert interviews, this method is a qualitative research style. Most experts agree that the best studies include a mix of qualitative and quantitative methodologies in order to reach the appropriate research breadth. By using the qualitative methods of Photovoice and expert interviews in conjunction with the quantitative methods of the systematic review, investigators can obtain a complete picture of this research area.

Finally, as stated above, the desired end result of any PAR project is action. The systematic review indicated that adolescents respond to real people telling real stories about the serious health consequences of tobacco use. The last benefit of this method is the potential to encourage action in a group that has tremendous potential to make a difference in the adolescent smoking prevention campaign.

Project Conceptual Model

Each phase of this project builds upon the results of the previous phase. The systematic reviews and expert interviews reveal the dimensions that make advertisements effective. Using this data, the third phase aims to use the smoking-related cancer survivor population to produce ideas for an adolescent-targeted anti-tobacco campaign. From the results of this project, the media vendor can develop an evidence-based, adolescent-targeted, anti-tobacco advertisement (Figure 1).
Figure 1: Project Conceptual Model

Systematic Review Results

Expert Interview Results

Smoking Related Cancer Survivor Photovoice

Evidence-Based, Adolescent-Targeted Anti-Tobacco Advertisement
Section 2: Methods

Systematic Review

Types of Studies

Any study was included in the review if it evaluated the effectiveness of a dimension of a television advertisement in influencing the smoking behavior, intentions to change smoking behavior, attitudes about smoking, recall of advertisements, or perceived effectiveness of advertisements in young people less than 18 years of age. Any type of methodology – from focus group data to randomized control trials – was included in the review. While any kind of methodology was accepted, the discovered studies only used one of three types of methodology: focus group studies, cross-sectional studies, and quasi-experimental studies. Each of the included studies was then analyzed for methodological quality in order to judge the reliability of results (see below in Analysis of Study Design Section). In the subgroup area, very few experimental studies existed, so opinion papers and editorials were included to determine if the authors discussed any consistent determinants.

For the purposes of this review, mass media was restricted to television advertisements. The advertisements analyzed in the studies could come from any organization: state campaigns, national campaigns, tobacco companies or other anti-tobacco organization.

Studies were included regardless of

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<th>Table 1: Journal Databases</th>
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<tr>
<td>Medline</td>
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<td>Business Source Elite</td>
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<td>Expanded Academic Index</td>
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<td>CIOS</td>
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<tr>
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</tr>
<tr>
<td>“Smoking cessation”</td>
</tr>
<tr>
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<td>“Women”</td>
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<td>“Girl”</td>
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publication date. However, this area of research is relatively new, and no published studies on this topic were available before 1985.

**Outcome Measures**

The primary outcome measure was self-reported smoking behavior. Intermediate outcome measures included intentions to change smoking behavior, attitudes toward smoking, knowledge about smoking behavior, and perceived effectiveness of the advertisements. Process measures included the recall (the proportion of adolescents who remembered the advertisement after a certain amount of time) of the advertisement.

**Search Strategy**

Research on tobacco counter-marketing spans a number of specialties, including medicine, marketing, business, and public health. For this reason, multiple search engines and search terms were necessary (see Tables 1 and 2). The main search terms were "counter-marketing," "mass media," "adolescent," "ethnic group," and "women" (Synonyms used are listed in Table 2). Studies were selected based on the criteria stated above. Once studies were found using this method, individual online journal sites were searched for relevant articles that were possibly missed by the larger search engines. Articles, unpublished works, and grey literature were then discovered using expert interviews. Finally, reference sections of reviews and studies were utilized to find articles not listed in online search engines (snowball technique).
Analysis of Study Design

Advertisement effectiveness research is limited to three major study designs: focus groups, cross-sectional studies, and quasi-experimental studies. While the quantity of research conducted on each variable is important, it is critical to also consider the quality of the research. In general, quasi-experimental studies and cross-sectional studies were deemed the more methodologically sound and more likely to yield reliable results than focus group studies. For this reason, results from quasi-experimental and cross-sectional studies were deemed stronger than data from focus group studies.

The results and discussion section for each study was examined to determine the type of study (focus group, cross-sectional, or quasi-experimental), the methodological strength of the study (as described below), which dimension (theme, format, emotional tone) was analyzed, which variables within each dimension (for theme, serious health consequences, addiction, refusal skills and so on) were analyzed, and the strength and direction of the effect (Table 3). Within this field of study, there is no standardized outcome or standardized desired effect size. The results are largely based on author interpretation. Therefore, the strength of effect used was based on the authors own words: not effective, mildly effective, moderately effective, and highly effective.

A study was considered supportive of a variable if it was rated moderately to highly effective. A study was considered unsupportive of a variable if it was

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rated mildly effective or ineffective. Contradictory evidence results when the results of studies are contradictory.

Focus group studies were analyzed using the strategy outlined in Crabtree and Miller. In general, rigorous qualitative studies utilized a standardized methodology for conducting and evaluating the focus groups; a diverse participant population by gender, ethnic group, age, income level and smoking status; approximately 10 participants per group; a maximum of 15 focus groups; and reasonable compensation for participation. A critical appraisal of each focus group can be found in Appendix A.

Quasi-experimental and cross-sectional studies were analyzed using strategies outlined in Fletcher et al. Rigorous quasi-experimental and cross-sectional studies employed large, diverse sample sizes; used validated interventions (commercials); had high response rates, and tested multiple dimensions (format, theme, tone). A critical appraisal of each cross-sectional study can be found in Appendix A.

**Expert Interviews**

*Development of Expert Interview Form*

In the first phase, three dimensions (theme, format and emotional tone) emerged as important in influencing advertisement effectiveness in preventing smoking initiation. Investigators created a standardized questionnaire form that included those dimensions, as well as contradictions within the literature and means of targeting the campaign at North Carolinian adolescents. The questionnaire used is found in Appendix E.

*Selection of Interview Subjects*

Researchers selected subjects in three ways. First, researchers who had published several articles in the field of adolescent-targeted tobacco prevention mass media campaigns were noted from the systematic review and asked to participate. Second, at the conclusion of expert interviews, the participant was asked if they had any suggestions of other anti-tobacco media experts to
interview. Finally, local experts familiar to the University of North Carolina Tobacco Prevention Evaluation Program (UNC-TPEP) were asked for recommendations on possible interview participants. In total, fifteen potential participants were identified through these three strategies, and of those, six were interviewed.

IRB Approval

The UNC School of Medicine Institutional Review Board approved the interview forms and study methods.

Recruitment of Interview Subjects and the Interview Process

A member of UNC-TPEP contacted potential participants by email to explain the project and invite them to participate in the study. Respondents received a consent form and an abbreviated copy of the interview form so that they could follow along with the interview. All interviews were conducted by telephone and taped with the interviewees’ signed consent. Interviews lasted an average of one hour.

Data Analysis

Interview tapes were transcribed, and for privacy reasons, their names were removed - only marked Expert A through F. The data was analyzed using the qualitative analysis software ATLAS-ti. The transcriptions were coded into numerous categories, and numerous themes, and theme families were discovered.

Smoking-Related Cancer Survivor Photovoice Project

Eligibility Criteria

Participants were eligible if they were diagnosed with a smoking-related cancer and they had a positive history of smoking. Both current smokers and non-smokers were eligible for the study. People younger than 18 years of age were not eligible for this study.
IRB Approval

This study was approved by the University of North Carolina at Chapel Hill (UNC-CH) - School of Public Health Institutional Review Board on Research Involving Human Subjects.

Recruiting Participants

Project coordinators recruited participants in six ways. First, project coordinators contacted facilitators of local cancer-related support groups and asked them to recruit eligible participants. Second, registered nurses with UNC Hospital’s Oncology Department agreed to recruit possible participants. Third, physicians within UNC Department of Family Medicine and Thoracic Oncology were contacted to recruit for the project. Fourth, project coordinators recruited participants directly at the UNC Department of Thoracic Oncology Outpatient Clinic. Fifth, messages about the project were posted on websites of smoking-related cancer support organizations. Finally, leaders of local smoking and cancer-related activist groups were contacted and asked to recruit participants. All of these recruiters received a fact sheet that described the study and supplied the contact information of the project coordinators. Interested participants were instructed to contact the project coordinators. One participant volunteered to be a part of the study.

Photovoice Workshops

Over a one month period, the subject participated in four two to three-hour meetings. All of the meetings were audio-taped. During the first meeting, the participant received an introduction to Participatory Action Research (PAR) and the Photovoice method, a detailed description of the study, signed the consent forms, discussed ethics of photography and the use of the acknowledgement forms for those in the pictures, discussed the camera’s operation, and discussed the first photo-assignments. In the spirit of PAR, great care was taken to ensure that the participant knew that he would not be a subject, but a member of the research team.
The film from the first photo-assignment was collected and developed. At the second meeting, the participant was shown all of the pictures from his photo-assignment. From this set of pictures, he was asked to choose the three photographs which were the most meaningful to him. These photographs were discussed using the SHOWeD format (Appendix F): What do you see here? What is happening in this photograph? How does this related to our lives? Why does this problem exist? What can we do about it? During these discussions, the coordinators and participant analyzed the content and context of the photographs. At the conclusion of the discussion, the participant and coordinators developed the next photo-assignment. This agenda was repeated at the third and fourth meeting.

After the third meeting, the participant invited us to attend a support group meeting attended by other laryngectomy survivors. This opportunity gave the project coordinators to discuss the themes that had developed during the Photovoice project, and see if these themes were consistent with the rest of the population. Field notes were taken at this meeting, but no audiotape was used.

During the final meeting, the project coordinators and participant discussed the future directions of the research, future community action, and the future applications of the uncovered themes.

Field Notes

In addition to the audio-tapes, field notes were taken by all of the project coordinators. These notes were transferred into a word-processing format and analyzed along with the transcriptions of the audio-tapes.

Data Analysis

The transcribed audio-tapes, field notes and photographs were analyzed using the qualitative analysis software ATLAS-ti. The documents and photographs were coded into numerous categories, and numerous themes, theme families, and theme networks were discovered. All data was shared with the participant, and his input on all conclusions was included in the final report.
Section 3: Results

Source Documents

Fourteen studies met the inclusion criteria for the systematic review of effective advertisement dimensions: seven focus group studies, four cross-sectional studies, and three quasi-experimental studies. The critical appraisal of all of these studies can be found in Appendix A. The strength and direction of findings can be found in Appendices B, C, and D. Six additional studies on targeting subgroups were analyzed: two opinion papers, two focus group studies, one cross-sectional study, and one quasi-experimental study.

<table>
<thead>
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<th>Table 4: Expert Interviews Families and Codes*</th>
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<tr>
<td>Actors/Cartoons (# of times coded)</td>
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<td>Results Contradictions – Ad Choice Differences (1)</td>
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<td>Results Contradictions – Exposure Intensity (1)</td>
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<td>Tailoring the Message (# of times coded)</td>
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<tr>
<td>Targeting Subgroups (2)</td>
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<tr>
<td>Industry manipulation in NC (4)</td>
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<tr>
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<td>No Research – Satire (2)</td>
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The Importance of Production Quality

* Headings in bold are families, normal font are codes.

In total, six transcriptions of the expert interviews were used as primary documents in this analysis. The text documents yielded one hundred and eighty-three quotations, which were coded into fifty-two categories. The codes were
divided into six families (group of codes that have a very close connection to each other) (Table 4).

**Effective Advertisement Dimensions**

Multiple reviews indicate that mass media campaigns reduce adolescent smoking, especially when used in combination with other programs\(^2,3,4,5\). While many have examined these programs at the campaign level, few have explored what dimensions of individual adolescent-targeted anti-tobacco advertisements are the most effective at reducing adolescent smoking. Authors suggest a litany of factors, including ad content or theme, format, emotional tone, production quality, clarity and consistency\(^10,11,12\). Of these, only three (theme, format, and emotional tone) have been studied. Two others were recommended in the expert interviews: production quality and actor characteristics.

**Theme**

For the purpose of this review, theme, often referred to as content, is defined as the main idea within any given advertisement. Experts use several typologies to categorize themes\(^4,13,14\). This review uses a combination of these approaches, yielding seven categories: serious health consequences, industry manipulation, secondhand smoke, short-term (also referred to as cosmetic) consequences, refusal skills, addiction, and negative social consequences/social norms.

Varying quantities of research exist for each of the seven categories. The evidence on each of the seven studied themes is described below, followed by a summary of the themes by effectiveness. A summary of the published evidence for the effectiveness of each theme can be found in Appendix B.

**Serious Health Consequences**

This theme focuses on the serious health consequences of smoking, including emphysema, lung cancer, other severe disease, and premature death\(^11\).
Supportive Evidence

Considerable reliable data show that the theme of serious health consequences is moderately to highly effective. In two quasi-experimental cross-sectional studies, Pechmann et al. and Wakefield et al. determined that adolescents regarded this theme moderately and highly effective, respectively\textsuperscript{5,11}. Similar results were found in two similar population-based survey studies conducted by Biener and Biener et al\textsuperscript{10,15}. In addition, results from a focus group study revealed that the serious health consequences theme was rated both highly effective and high in cognitive quality by youth participants\textsuperscript{14}.

Unsupportive Evidence

Other studies suggest that the serious consequences theme is ineffective in anti-tobacco messages\textsuperscript{13,16,17}. Pechmann and Goldberg performed a quasi-experimental cross-sectional study that found that adolescents rated this theme ineffective at changing intention to smoke\textsuperscript{16}. Both a review of focus group data\textsuperscript{13} and a small focus group study\textsuperscript{17} found that long-term health consequences were rated ineffective by adolescents as well. A lack of description of the methodology of these studies makes it difficult to understand why they reached different conclusions than the more rigorous studies described above. One possible explanation could be if serious consequences were presented to youth as long-term outcomes, rather than problems that could develop in later in life.

Supportive Expert Opinion

Four expert interviewees agreed that the theme was an effective dimension. In general, experts based these feelings on personal experience and research\textsuperscript{18,19,20,21}. "The Pam Laffin and Rick Stottard ads...those are all very moving ads, very honest ads, truthful ads. They don't really pull punches. I think those are the type of ads that youth respond to."

Two experts provided warnings about the use of this theme. Expert C pointed out that this theme might not be effective when used alone because adolescents know the serious health consequences of smoking and they also feel invincible.
Only by paring this ad with another theme – such as industry manipulation – does it reach adolescents and become an effective dimension. In addition, Expert E discussed how an ad that used this theme could be ineffective if it did not stimulate an emotional response.

**Industry Manipulation**

This theme focuses on the deceitful marketing practices used by tobacco companies to sell their product. Many authorities posit that this theme will be effective because it challenges and raises strong negative emotions about the tobacco industry among teens.

**Supportive Evidence**

Considerable, reliable data demonstrate that industry manipulation is moderately to highly effective. A large, well-designed, population-based survey conducted by the Legacy Foundation found that the truth™ Campaign was very effective at improving teens' intention to change behavior. The campaign relies heavily on the industry manipulation theme. In a randomized, cross-sectional, population-based survey, Biener found that adolescents rated the Massachusetts ads with an industry manipulation theme as highly effective.

Results from two focus group studies agree with the studies above. Large focus group data reported by Goldman and Glantz demonstrate this theme as effective in counter-advertising. In a smaller focus group study, McKenna and Williams showed that youth thought ads using this theme were moderately effective.

Many researchers believe this theme is most effective when paired with other themes, especially the serious health consequences theme. Since the truth™ Campaign uses multiple themes, the results found in its evaluation may indicate that the multi-theme approach makes this theme very effective.

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Unsupportive Evidence

Three studies of varying methodological strength caution against the use of the industry manipulation theme. A quasi-experimental cross-sectional study conducted by Pechmann and Goldberg showed that industry manipulation alone is ineffective at improving intention to change behavior. While the sample size is large, the study methodology is not fully described. Two methodologically strong studies agree with Pechmann and Goldberg’s results. Pechmann et al. performed a cross-sectional study of 1667 seventh and eighth graders to determine which type of ads influenced an adolescent’s intention to change behavior. These results indicated that industry manipulation was ineffective at changing an adolescent’s intentions. A focus group study conducted by McGloin and Burritt in North Carolina revealed that adolescents judged industry manipulation to be only mildly effective. However, the authors did state that the industry theme could be successful if combined with other effective themes.

Supportive Expert Opinion

While the published research shows mixed results for this theme, the experts were more decisive; five participants indicated that the theme was an effective dimension. Experts based these opinions on research and on personal experience. When this theme was discussed, it was unanimously discussed with the truth™ campaign, which relies on this theme often.

Advertisements that use this theme are effective for three reasons. First, it is controversial, and therefore attention grabbing. Second, it can easily be used with other themes such as serious health consequences, which, when used together, can link tobacco companies with death and disease. Finally, in addition to reducing the desire to smoke, these ads also stimulate an anti-tobacco activism, which helps change the social norm.

Expert C did warn that because the research on this theme is based on ads from the truth™ campaign, this dimension may be judged as effective not because of some intrinsic nature of the theme, but because of the high production quality of the campaign in general. “I think at the same time when advertising agencies
got more sophisticated about reaching teens and so if the current industry manipulation campaigns have been effective it’s not necessarily because of the industry manipulation message – it could be because they’re doing other things right.”

Tobacco Producing States and Industry Manipulation

As previously discussed, McGloin and Burritt found industry manipulation relatively ineffective in North Carolina. Authorities suggest that this inconsistency results because adolescents within tobacco-producing states have close contact with the tobacco industry. To refute this point, Thrasher et al used the data from the Legacy foundation surveys to show that there is no difference in rated effectiveness of industry-themed ads between tobacco producing states and non-tobacco producing states in their large data set.

Three expert interview participants discussed using industry manipulation in North Carolina. Expert B and C indicated that the industry manipulation theme would be as effective in North Carolina as it was in non-tobacco producing states.

Expert F discussed one possible issue – political feasibility. He indicated that an ad is only effective if it can ever be made, and that in North Carolina, it could be difficult to get these ads produced using state funds.

Secondhand Smoke

Pechmann and Reibling describe this theme as “advertisements that stress the negative impact of secondhand smoke on family members and other people, particularly infants and children.”

Supporting Evidence

There are data to indicate that the theme of second hand smoke is moderately to highly effective. Two quasi-experimental studies by Pechmann et al. and Pechmann and Goldberg suggest that secondhand smoke is a highly effective theme. Two focus group studies – one a review by Goldman and
Glantz and one a single study by McGloin and Burritt – found that this theme was moderately to highly effective\textsuperscript{13,14}.

**Supportive Expert Opinion**

Five participants agreed that the second hand smoke theme was an effective dimension. The experts based these opinions on research and personal experience\textsuperscript{18,19,21,24,25}. Several of these interviewees explained that they believed that this theme was effective because it worked on two levels. First, it showed the negative health consequences on smokers’ loved ones, which may dissuade teens from starting the habit\textsuperscript{24,25}. Secondly, this theme also acts to change the social norms so that smoking is not tolerated. “…If ads show kids or adults smoking around kids and basically carelessly endangering these kids and you see the kids suffering…those really work because they evoke feelings of outrage and social disapproval. It’s almost immorality. ‘How could these people be hurting their kids like that?’ \textsuperscript{21}.

Expert C pointed out that this ad would not be effective if used alone in a smoking prevention campaign, because it is primarily targeted at smokers. However, it can be used with other themes, such as industry manipulation within a campaign and be effective\textsuperscript{20}.

**Short-term (Cosmetic) Consequences**

This theme highlights the negative cosmetic effects of tobacco, including stained teeth and bad breath. The short-term consequences theme is often found in advertisements in combination with the negative social consequences theme\textsuperscript{4}.

**Supportive Evidence**

A quasi-experimental study found that teens judged ads highlighting the short-term consequences of tobacco use to be mildly to moderately effective\textsuperscript{11}. A small focus group study confirmed these results\textsuperscript{27}.
Unsupportive Evidence

A moderate amount of conflicting evidence exists on this theme. In a quasi-experimental cross-sectional study conducted by Pechmann and Goldberg, adolescents considered this theme ineffective. In a review of focus group findings, the authors found that adolescents only rated this theme as mildly effective.

Unsupportive Expert Opinion

Four expert participants agreed that the theme is an ineffective dimension, based on the research and personal experience. Many participants indicated that these ads were ineffective because they were not “constructed” well. “It just seems like a lot of the short-term consequences ads are hokey, humorous ads. They are exaggerated and just aren’t realistic.”

Addiction

Advertisements using this theme demonstrate the addictive properties of cigarettes and the effect of this addiction. This theme is often found in the testimonial format along with the industry manipulation theme.

Supportive Evidence

The limited information on the addiction theme indicates it may be an effective counter-advertising theme. In a small focus group study conducted by McGloin and Burritt, the adolescents judged addiction moderately effective and high in cognitive quality (made the respondents “stop and think”). In a review of 186 focus groups, Goldman and Glantz also found this theme moderately effective, especially when used with industry manipulation or secondhand smoke.

Supportive Expert Opinion

The majority of expert interviews were able to recommend this theme. Three participants regarded the addiction theme as effective.
Expert E, 2003; Expert F, 2003), while one stated that it was ineffective\textsuperscript{21,24,25}. Expert E indicated that these ads were effective because they reduced the feeling of invincibility among adolescents\textsuperscript{21}. On the other hand, Expert C discussed how many kids that smoke do not think that they are addicted, and therefore this ad would be ineffective\textsuperscript{20}. Expert F indicated that it was helpful because it allowed campaign organizers to discuss the harms of tobacco without targeting tobacco producers\textsuperscript{25}.

**Negative Social Consequences and Social Norms**

The negative social consequences and social norms themes are closely associated and often appear together in the same ad. The negative social consequences theme focuses on the barriers smoking creates on the way to a successful life. The social norms theme aims to reduce the belief that smoking is acceptable behavior. Both of the themes intend to reverse the “cool, normal” depiction of tobacco users ingrained in the American culture through decades of tobacco advertising\textsuperscript{11}.

**Supportive Evidence**

Two studies by the same primary investigator found that the negative social consequences and social norms model is effective at influencing adolescents’ intention to smoke. In the first study, Peclumann and Goldberg found these themes to be effective; however, the methodology of the study is not fully described\textsuperscript{16}. In the second study using a controlled setting to show ads to youth and get their feedback, Peclumann et al found the negative social consequences theme was effective at reducing adolescents’ declared intentions to smoke\textsuperscript{11}.

**Unsupportive Evidence**

The research on these themes is scant and conflicting. A review of focus group data revealed that adolescents regarded the negative social consequences theme as completely ineffective. The authors found this theme was particularly

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ineffective among smokers, because youth who smoked found the messages personally offensive\textsuperscript{13}.

**Unsupportive Expert Opinion**

The majority of expert interviews found that the use of this theme was not recommended, except in very specific situations. Four participants indicated that the negative social consequences theme was ineffective\textsuperscript{18,19,20,24}, while one participant indicated that it was effective\textsuperscript{21}. Several themes emerged when discussing this theme. The first was the importance of actor’s characteristics with ads that used this theme. Two participants discussed how it was important to use actors that the target audience would see as role models, and avoid actors that come off as “uncool.”\textsuperscript{19,20}

Expert E described that when this theme is used carefully, it can be effective. Ads that encourage disapproval toward smokers and the sense that smokers have made a wrong choice in their life are effective in adolescents\textsuperscript{21}. While stating that in general this theme was ineffective, three of the participants agreed that with carefully selected actors and in specific instances such as those that Expert E describes, this approach could be effective\textsuperscript{19,20,25}.

**Refusal Skills**

This theme demonstrates ways to avoid smoking. Often, role models tell why smoking is unattractive and then demonstrate avoidance techniques\textsuperscript{11}. The research on this theme in anti-tobacco advertising is scarce and contradictory.

**Supportive Evidence**

In a quasi-experimental cross-sectional study, Pechmann et al (2003) found that adolescents regarded this theme as highly effective. However, investigators base the study largely on research performed in a laboratory over a short time period, while the Farrelly et al research described below is based on “real-world,” population-based samples with longer follow-up\textsuperscript{23,28}.
Unsupportive Evidence

In a large, powerful quasi-experimental cross-sectional study performed by the Legacy Foundation, adolescents consistently rated the Phillip Morris campaign less effective than the truth™ campaign. The Phillip Morris campaign relies heavily on the refusal skills model. Interestingly, younger adolescents rated this theme more favorably, but not better than the Truth™ campaign.

Unsupportive Expert Opinion

The majority of expert interviews recommended against its use. Four participants indicated that the refusal skills theme was ineffective\textsuperscript{18,19,20,24}, while one participant indicated that it was effective\textsuperscript{21}. Participants based these results on personal experience, because little research exists on this theme. In general, the refusal skills theme is seen as a special type of negative social consequences theme, instead of a theme to itself. The arguments for and against its use were the same as those for the negative social consequences theme. In general, it could be effective if the production quality was high and the actors were well chosen\textsuperscript{19,20}.

Format

For the purposes of this review, format is defined as the nature of the story or context utilized to convey the message. The typology used to categorize the different formats is a combination of schemes used elsewhere\textsuperscript{12,14}. This model presents five categories. It is important to point out that format is closely tied to both theme and emotional tone, and a great deal of overlap exists. A summary of the published evidence presented below can be found in Appendix C.

Testimonials

This format uses a story-telling approach to convey the message. Advertisements using this format often portray people who have been negatively affected by smoking\textsuperscript{12}. The serious health consequences, second hand smoke, industry manipulation, and addiction themes tend to occur with this format, and it
typically has a negative emotional tone. Most experts agree that this is the most effective format\textsuperscript{12,14,17}.

Supportive Evidence

Overwhelming support exists for the testimonial format. Three large, well-designed, quasi-experimental cross-sectional studies found that adolescents rated this format highly effective\textsuperscript{5,10,15}. All of these studies had large, population-based samples and a strong study design. In addition to the quasi-experimental studies, two focus groups found this format to be most effective\textsuperscript{14,29}.

Supportive Expert Opinion

Four participants indicated that the testimonial format is effective\textsuperscript{18,19,20,21}, while Expert D indicated that it was only effective in specific cases\textsuperscript{24}. The experts based these opinions on both research and personal experience. Expert B explained that sad or personal testimonials worked when “they portray in an honest, truthful way the effects of tobacco.”\textsuperscript{19} Expert C added that these ads needed to have an “edgy” component in order to work with adolescents\textsuperscript{20}.

All of the proponents of this format emphasize the importance of the actor. Expert A describes ads that worked because they tell the story of life with a laryngectomy, and it elicits a strong emotional response\textsuperscript{18}. Expert B reiterated this idea when he stated, “ads that show real people experiencing the real effects of smoking are effective\textsuperscript{19}.”

Celebrity Testimonials

Schar et al cautions against the use of celebrities in anti-tobacco advertisements\textsuperscript{12}. The review of state campaigns revealed that celebrity testimonials about personal negative consequences of smoking were more effective than ads that portrayed celebrities as role models.

Expert C agreed that ads using celebrities rate poorly because they do not reach the adolescents that were at risk for smoking. Expert C stated, “… It just
doesn’t seem like, for kids that are at risk, that they care about Christy Turlington or the other CDC ads that use role models.”

**Graphic Images**

The graphic image format uses vivid images of real bodily destruction caused by tobacco. The serious health consequences theme is often used in conjunction with this format, and these ads typically have a negative emotional tone.

**Supportive Evidence**

A large, population-based study in Australia conducted by Wakefield et al revealed that teenagers judged the graphic image format to be very effective. Likewise, in a focus group study performed by McGloin and Burritt, teens found graphic images very effective. Finally, in a review of state and national anti-tobacco campaigns, Schar et al found that graphic images were very effective.

**Unsupportive Evidence**

Only one study warns against the use of the graphic image format. In a small focus group study, Murphy found that adolescents judged graphic images to be ineffective in anti-tobacco advertisements. The study lacks a detailed description of methodology, making it difficult to discern why its results differed from other studies.

**Contradictory Expert Opinion**

The results from the expert interviews are less supportive of this format, since only two participants remarked on the graphic images format, and the two comments were contradictory. Expert B cited the success of campaigns in Canada and Australia that use this format as an indication of its value. Expert D, on the other hand, indicated that all of the research he was aware of indicates that “direct image ads showing the effect of tobacco on a smoker’s lung are a waste of time.”

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Humor

This format uses humor and humorous situations to deliver an anti-tobacco message\textsuperscript{14}. It is often found with the negative social consequences theme, the refusal skills theme, and the short-term consequences theme. In addition, advertisements that use this format consistently have a positive emotional tone.

Unsupportive Evidence

While humor has a high recall, this format is consistently rated ineffective by all studies reviewed. In a large, quasi-experimental, cross sectional study performed by Biener teenagers often recalled humorous ads, but consistently regarded humor as an ineffective format\textsuperscript{10}. Two focus group studies found similar results\textsuperscript{14,29}.

Supportive Expert Opinion

While humor was less effective than other formats, the three experts stated that humor had its place\textsuperscript{19,20,24}. Expert D stated, “Humor and satire work very well if it’s done properly, but you don’t want it to be stupid. You want it to be humorous and satirical.”\textsuperscript{24} Expert C agreed, indicating that ads that employ humor are “more difficult to pull off successfully.”\textsuperscript{20} Expert B described a specific instance when humor can be effective – when it is not the primary thrust of the ad\textsuperscript{19}.

In addition to using humor very carefully in individual ads, Expert C remarked that ads with the humor format could be effective in the midst of a larger campaign. “I think that most advertisers view humorous ads as a way to lighten up an overall campaign...as a garnish on a dish...I wouldn’t serve it up as a dish, but I’d put it as a garnish.”\textsuperscript{20}

Factual

The factual format presents statistics and other tobacco-related facts that illustrate the harm of cigarettes\textsuperscript{14,12}. This format can be found with many themes
and other formats, and advertisements with this format can have either a positive or negative emotional tone.

Supportive Evidence

Two focus group studies found the factual format was moderately to highly effective\textsuperscript{14,17}. Additional research should be conducted to determine whether these results are consistent in larger studies.

Contradictory Expert Opinion

Only two participants discussed the factual format during the course of the interviews, and the results were mixed\textsuperscript{20,24}. Expert C indicated that while he thought the use of statistics within ads would be ineffective, his research has shown that the statistics provide a means to capture adolescents’ attention\textsuperscript{20}. Expert D, however, indicated that ads that primarily use statistics would be ineffective\textsuperscript{24}. Until more research is available, it seems this format should be avoided.

“Edgy” and Youth Driven

This format uses risk-taking youth to present the anti-tobacco message\textsuperscript{14}. The industry manipulation theme (particularly within the truth\textsuperscript{TM} campaign) often accompanies this format\textsuperscript{28}. While many state and national campaigns use this format, studies focusing on youth driven formats alone are limited.

Supportive Evidence

In an evaluation of the truth\textsuperscript{TM} campaign by the Legacy Foundation, Farrelly et al found that adolescents regarded the youth-driven format as very effective\textsuperscript{23,28}. This study had a large and diverse sample size, as well as a solid methodology.
Unsupportive Evidence

A well-designed focus group study determined that ads using this format were generally rated ineffective by teenagers; however, when asked what they would like to see in future ads, teenagers selected this format quite often.¹⁴

Supportive Expert Opinion

Three participants discussed the “edgy” format, and all three indicated that based on the research and personal experience, this format was very effective.¹⁹,²⁰,²⁴ Most of these comments centered on the success of the truth™ campaign, which uses this format heavily. By using this format, the adolescents are more likely to pay attention to the advertisement. This finding also bolsters the importance of the actor within these ads, since the participants emphasized how what gave the ads this format was the use of edgy adolescents.¹⁹,²⁰,²⁴

Emotional Tone

Emotional tone is defined as an individual’s affective response to an advertisement.¹⁰,¹⁵ The theme and format of an advertisement partially dictate the emotional tone; therefore, certain themes and formats tend to be associated with a particular emotional tone. For the purposes of this study, emotional tone falls into two categories – positive and negative. A summary of the published evidence below can be found in Appendix D.

Negative Emotional Tone

An advertisement with a negative emotional tone elicits a negative affective response such as anger, sadness, fear, or shock.¹⁰ Several experts have proposed that negative emotional tone will be much more effective than positive emotional tone because it activates a behavioral response to remove the negative stimulus.³⁰,³¹
Supportive Evidence

A total of eight studies determined that negative emotional tone was more effective than positive tone. Four large, well-designed quasi-experimental cross-sectional studies found that adolescents perceived advertisements with negative tone to be more effective than advertisements with positive tone. All of these studies have large, diverse sample sizes and strong study designs. One quasi-experimental cross-sectional study conducted by Montazeri and McEwen showed similar results.

Three focus group studies with varying degrees of methodological strength found results similar to the studies above. Two well-designed focus group studies found a negative emotional tone to be more effective than a positive tone. A focus group study conducted by Murphy also found that negative emotional tone was more effective than positive tone.

Supportive Expert Opinion

Five expert participants discussed emotional tone, and all indicated that advertisements that elicited a negative emotion such as anger, sadness, or outrage were more effective than those that elicited positive emotions such as happiness, humor or hope. These results were based on research and on personal experience. As Expert B stated, “…ads that are more serious, more honest, more truthful…are going to be more effective. They have to be catchy, they have to pull on the heart strings and they have to be emotionally powerful.”

Expert C did give one word of caution. “I think having pure ads that focus [on negative emotional tone] are beneficial, but a whole campaign that focused primarily on provoking anger and outrage is going to wear out very quickly.”
Positive Emotional Tone

When an advertisement elicits a positive affective response such as humor, hope, or inspiration, it conveys a positive emotional tone\textsuperscript{32,10}. Humor is the most commonly used format that elicits such a response, and is the most frequently researched.

Unsupportive Evidence

At best, positive emotional tone is mildly effective. Two studies -- one a quasi-experimental cross-sectional study\textsuperscript{32} and one a well-designed focus group\textsuperscript{14} -- found that adolescents believe positive emotional tone is less effective than negative emotional tone.

Three additional studies confirm these results. One quasi-experimental cross-sectional study conducted by Montazeri and McEwen showed that adolescents rated positive emotional tone as ineffective\textsuperscript{33}, as did two smaller focus group studies\textsuperscript{29,36}.

Aspiration and Hope

Expert interview participants agreed that ads eliciting the positive feelings of aspiration and hope could be effective. However, there simply were very few ads and no research that indicated that this is true\textsuperscript{18,19,20,24}.

Production Quality

For the purposes of this review, the production quality is the extent to which an advertisement looks professionally composed. Several authors have suggested that it plays an important role in determining advertisement effectiveness, however no published research in the tobacco literature exists on this topic\textsuperscript{10,11}. Three of the six interviewees stressed the over-arching importance of the production quality of the ad\textsuperscript{19,20,24}. Most authorities judge ads that use cartoons the social consequences theme as ineffective. The participants suggest that the poor production quality of these ads leads researchers to judge them in
this way. “I think it’s possible that I’m basing it [the ineffectiveness of social consequences theme] just on the low quality of ads that have been done with social consequences.”

Actor Characteristics

One dimension that was not covered in the systematic review that became very important in the interviews was actor characteristics. Over the course of the interviews, three different groups emerged: ads that portrayed cartoons, ads that use actors, and ads that used real people.

The results of the interviews indicate that using real people is the most effective. Expert A indicated that real people were more effective because “they are believable and hit on all of the dimensions if they are done well. If real people are telling a story, it evokes a feeling in the audience.” Expert C, Expert D and Expert E agree on this issue as well for similar reasons. The use of actors was an area of contention within the research. Expert A believed that when the ad seems overly contrived, it is obvious that the performer in the ad is an actor, and it is less effective. However, Expert C and Expert E feel that in most cases, adolescents cannot distinguish an actor from a real person.

Three participants discussed the use of cartoons, and all thought that they should be used with extreme caution. Expert C indicated that they can be used when targeting the young, “tween” age group, but they are ineffective with the older adolescents. Expert B and Expert C discuss how cartoon ads often use the humor format, and have positive emotional tone. They admit that they can be effective, but they need to be used judiciously, and the production quality needs to be especially high.

Targeted Sub-groups

When the Health and Wellness Trust Fund asked for this review, they were interested in targeting not only adolescents, but populations within that population. They wished to know how to target by ethnic group, gender, age, and...
smoking status. They also wished to know how North Carolinians could specifically be targeted with the mass media campaign.

Only a small body of research explores this area. Therefore, during the expert interviews, the participants were asked to discuss how these groups could be targeted. The synthesis of the literature review and expert interview results are discussed below.

**Ethnic Groups**

In 2002, 23 percent of high school students reported smoking cigarettes in the past 30 days. These rates are not uniform; they vary by ethnic group and sex. The prevalence of smoking would indicate that smoking is not a problem among minority groups; 32 percent of white adolescents smoke, compared to 17 percent of African Americans and 23 percent of Hispanics. However, the rate of decline in smoking initiation is lower in the minority populations\(^{35}\). American Indians have the highest prevalence of smoking among all ethnic groups – 39 percent\(^{37}\).

Very little published research explores the possibility of targeting certain ethnic populations. The expert interviews indicated that this was because little differences exist between ethnic groups\(^{19,20,21,24}\). Expert D stated "...within ethnic groups – especially with the ages you’re talking about – they are all living in the same culture."\(^{24}\) Expert B reiterated this point by saying "...a good ad – a catchy ad – is going to be catchy across the board."\(^{19}\)

**Theme**

Expert F (2003), Hannon (2000) and Ramirez et al. (2000) suggest that themes emphasizing family and social norms would be the most influential among minority teens\(^{25,38,39}\). Results from two focus group studies support this statement. McGloin and Burritt showed that African American teens rated the secondhand smoke advertisement very effective\(^{14}\). Ramirez et al. showed that Latino teenagers found the refusal skills theme and the social norm theme effective\(^{40}\).
These themes are not the only effective themes for targeting Latino adolescents. Results from another focus group found that the addiction theme was effective among Latino adolescents, particularly in the younger age ranges. In addition, Farrelly et al. found that the Truth™ campaign was equally effective among Latino and non-Latino youth, suggesting that themes used in the Truth campaign can also be used in this population.

In a cross-sectional study performed with adolescents and adults, Marín et al. found that interventions relying on the short-term health consequences theme and secondhand smoke theme were effective at increasing the recall of the campaign.

**Format**

Only three formats were found to target minority adolescents. The interview with Expert A revealed that African Americans responded more favorably to humor than the other ethnic groups. In the focus group study performed by McGloin and Burritt, African American youth rated the graphic image format ineffective. Finally, the Stafford Institute determined that the testimonial format was especially effective among the Latino population. No other studies exist that confirm the effectiveness of these formats in the adolescent minority population.

**Actor Characteristics**

Hannon and Expert B, Expert C and Expert F emphasized the importance of including actors of various ethnic groups in order to target those groups. Results from the Legacy Foundation survey suggest this is an effective strategy, because ads that portrayed African American youth were rated highly by the African American participants.

Expert F provided a specific example of how this could be tastefully accomplished. An advertisement could target American Indians (particularly the Lumbee tribe) by including subtle Lumbee Indian references, such as the use of turquoise jewelry and the UNC-Pembroke logo.
Skin tone was not the only means of targeting subgroups. Interviews with Expert B and Expert F as well as an opinion paper by Ramirez et al. recommend that advertisements targeted at Latino teens should have Latino actors that speak a mix of English and Spanish\(^{19,25,39}\). While no studies confirm the effectiveness of using Latino actors, Ramirez et al confirmed that bilingual advertisements are effective within this population\(^{40}\).

**Gender**

In 2002, 21 percent of adolescent girls smoked\(^{35}\). While for years women had much lower smoking rates than men, the rate is currently nearly identical between the two groups. The rate varies greatly between ethnic groups, with American Indian women at 35 percent, whites at 24 percent, African Americans at 24 percent, and Hispanics at 15 percent\(^{42}\).

**Theme**

Very few studies examine the differences in anti-tobacco theme preferences between boys and girls. Focus group findings mentioned by Flynn et al suggest that adolescent girls rate the negative social consequences theme as effective\(^{43}\). In a successful anti-smoking campaign reported by Worden et al, an anti-tobacco intervention in girls resulted in a reduced incidence of smoking initiation\(^{44}\). While the authors performed no formal analysis on the theme of the campaign, most ads focused on the social norm and negative social consequences theme.

During the expert interviews, Expert B indicated that, in his experience, secondary smoke ads were more effective in girls than boys. No published studies were able to corroborate this claim\(^{19}\).

**Format**

In the same report mentioned above by Worden et al.\(^{44}\), the campaign utilized a mix of formats, but primarily used testimonials and humor. In the expert interviews, Expert C hypothesized that edgy, shocking ads portraying
graphic images would be more effective in boys than in girls. In a focus group study, McGloin and Burritt found the opposite – adolescent girls found the graphic images format to be very effective.

**Smoking Status**

Expert C indicates that this population may be much more difficult to reach than any of the other populations, because they consistently rate all ads worse than nonsmokers. While there is very limited research on this area, a few studies do exist. In addition, the expert interviews yielded several interesting results.

**Theme**

Limited published information exists about the differences between smokers and non-smokers regarding thematic preferences or effectiveness. The small amount of published research and expert interviews reveal four themes may be effective at targeting smokers. In the large survey conducted by the Legacy Foundation, Farrelly et al. found that smokers found the truth™ ads to be much more effective than the Phillip Morris ads. This suggests that the industry manipulation and serious health consequences theme may be effective among this group. Expert B and Expert D agree that the serious health consequences theme may be more effective at reaching smokers than nonsmokers. They add that the secondary smoke theme would also be effective.

However, results from a focus group performed by Peracchio and Luna dispute these assertions. The results show that smokers were more influenced by the short-term (cosmetic) consequences theme than the serious health consequences theme. The authors suggest that adolescents are not concerned with the long-term risks associated with smoking.

Several experts cautioned the use of the negative social norms theme. Expert A, Expert B and Expert C indicated that this theme was ineffective at reaching current smokers. This could possibly occur because teens often start...
smoking because of social conditions, and ads that use this theme go contrary to their beliefs, alienating them from the campaign\textsuperscript{18,19,20}.

**Format**

Only Expert C commented on a difference with regard to format. He suggested the humorous ads may be a means of appealing to this population—drawing them in before delivering the message\textsuperscript{20}.

**Age**

No published tobacco literature exists on the ability to target within the adolescent population by age. In addition, the interviews found very few means of tailoring by age. Expert A found that younger adolescents (the tweens) rated all ads more favorably. She indicated that this might be due to the desire for social acceptance at this age\textsuperscript{18}. Expert C warned that ads that used complex messages, such as the industry manipulation theme, would be less effective at the younger ages\textsuperscript{20}.

Recently, two studies call into question the cost-effectiveness of adolescent-only-targeted mass media campaigns. Two population-based, cross-sectional studies performed in Australia indicate that campaigns targeted to adults are rated effective by adolescents\textsuperscript{5,45}. In one of the studies, authors found that 85 percent of adolescents surveyed thought the adult-targeted campaign was aimed at them. Additionally, 85 percent thought the ads were effective and 26 percent thought about quitting because of the ads\textsuperscript{45}. With increasing funding difficulties, these two studies support the view that campaigns encouraging adults to quit will cause the largest reduction in tobacco consumption, because the adult-focused ads will help adults, and by example, adolescents\textsuperscript{46}.

Expert D also discussed the limited cost-effectiveness of targeting younger age groups. He stated that the majority of smokers begin in their very late teens or early twenties, and that this is the age when a media campaign could do the most good. He indicated that most middle school-aged children have a negative view of smoking, and a media campaign targeting this group is ineffective. By
targeting ads at the population that is at the age where the majority of smoking initiation occurs, the campaign could be much more cost effective24.

**North Carolina Audience**

Four participants discussed how an adolescent-targeted mass media campaign could be tailored to North Carolina, and the results were astoundingly unified. All four participants indicated that the results from other states would apply similarly here18,19,20,25. Expert A, Expert B and Expert C all indicated that the serious health consequences theme, the testimonial format, and negative emotional tone ads would work in North Carolina as effectively as they do elsewhere18,19,20,25.

Experts A and B were quick to point out one specific means of reaching the population – use North Carolina stories. Both emphasized that North Carolina’s history with tobacco production would make North Carolinian stories much more effective18,19.

**Explanations of Research Contradictions/Limitations of Research**

During the systematic review, several contradictions in the research emerged. Research on several of the themes, including short-term consequences, negative social consequences and industry manipulation, indicated that different authors showed opposite results. During the expert interviews, investigators asked the participants whether they could identify the reasons for the discrepancies. The responses to this question explained the contradictions, and also illuminated the major limitations to the research – avoidance of production quality, ads as multidimensional stimuli, exposure intensity, dimension correlations, dimension limitations, methodology, outcome measure limitations, and study population limitations.

*Multidimensional Stimuli*

Advertisements are multidimensional stimuli. The only dimensions that have been studied are theme, format and emotional tone. However, other
dimensions surely exist, but remain unstudied. For this reason, many of the themes and formats may be shown to be ineffective because the ads are ineffective for other, unstudied reasons. For example, Expert C uses the example of the Phillip Morris “Boy on the Bus” advertisement, which uses the social norms theme and positive emotional tone. This ad was consistently rated poorly, and thus indicated that the social norms theme and positive emotional tone are less effective. However, these two dimensions may be effective, but another, more powerful, unstudied dimension, such as production quality, hampers the ad. Expert D discusses how research in this area is often uses reductionism—only studying a few dimensions.

Expert D also indicates that within a given dimension, authors can often place advertisements into very strict categories, and ignoring interactions. It is also possible to limit the categories within a dimension. He uses the example of the industry manipulation theme, which is often ignored in some studies because of the political implications.

Avoidance of Production Quality

Expert B and Expert D agreed that one explanation for the discrepancies was the varying degrees of ad production quality. Without controlling for the production quality, Expert B stated that it is difficult to compare ads. Expert D reiterated this point, adding that the data from focus groups could be even more influenced by variations in production quality.

High Dimension Correlation

Expert A points to the fact that many of the dimensions run together, and that pulling them apart is statistically difficult. For example, testimonials run hand in hand with negative emotional tone and the serious health consequences theme. In a study, it is difficult to say that one dimension or the other makes an advertisement more or less effective.
**Exposure Intensity**

Expert B states that exposure intensity may be important in the overall effectiveness of an ad. He states that in studies that rely on population surveys, the results will be affected by the intensity of the ads. If an ad is shown more often on television than a competing ad, it will be recalled more often, and seem to be more effective, assuming recall is the outcome measure of choice. One other possibility was that some ads, such as industry manipulation, are relatively sophisticated, and several exposures are needed to have the desired effect.

**Methodology**

**Variations in Methodology**

Four of the participants indicated that the methodology of studies is hampered by both the types of studies used to study the subject and the variations in methodology within study types. Much of the research in this area is based off of focus group data, which Expert C and Expert D indicate is statistically very suspect. Expert A, Expert C and Expert E indicate that within different study types, there is a variation in study design. Expert C gives the example of laboratory conditions. Some studies ask subjects to just watch the anti-tobacco ads, while others ask participants to watch the ads in the context of normal television. The results from these two slightly different studies have the potential to revealing very different results.

**Limitations in Advertisements**

The study of anti-tobacco mass media campaigns is severely limited by the numbers of ads that are available to study. Expert C points out there are only a few ads that represent the different dimensions, and that one outstanding ad within any one category can potential swing the results toward those dimensions.
Outcome Measure Quality

Both Expert B and Expert C brought up the fact that the outcome measures used in the studies to date are inadequate\textsuperscript{19,20}. Expert C stated “the thing that is really lacking in the literature is studies with long-term outcomes that come from being exposed to ads multiple times. There are some studies out there, but they are few and far between. When you use short-term outcome measures, it is hard to account for all of the other things that are affecting youth smoking.”\textsuperscript{20}

By studying the short-term outcomes, Expert B points out a very interesting limitation. “The ads that kids remember the most may not necessarily be the ads that lead to changes in the knowledge, attitudes or behaviors related to smoking.”\textsuperscript{19} By using recall of ads and the perceived effectiveness, researchers may be drawing false conclusions about changing adolescent behavior.

Small Study Populations

Finally, Expert D focuses on the size of the majority of studies in this area. In terms of both population size and intervention size, Expert D points out that many studies will be unable to find a large enough effect with such small populations and interventions. Only a larger study with a large population and an intense intervention will be able to determine the small differences in effect that the various dimensions produce\textsuperscript{24}.

Smoking-related Cancer Survivor Photovoice Project

In total, twenty-two primary documents were used in this analysis, including the transcriptions of the three

Quattlebaum, 43/84
photo-discussions, the field notes, and seventeen photographs (Table 5). The text documents yielded over two hundred quotations, which were coded into seventy-one categories. Only thirty of these categories were pertinent to the topic of this project. The codes were divided into eleven families (group of codes that have a very close connection to each other); of those, three were pertinent to the project (Table 6). Finally, the codes were placed in networks to describe the linkages between the themes. There were a total of four networks, of which two were pertinent to the project (Appendix G and H).

<table>
<thead>
<tr>
<th>Table 6: Photovoice Families and Codes*</th>
</tr>
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<tbody>
<tr>
<td><strong>Adolescent Smoking Prevention Barriers</strong></td>
</tr>
<tr>
<td>Peer Pressure/Need to be Cool</td>
</tr>
<tr>
<td>Big Tobacco Unethical Practices</td>
</tr>
<tr>
<td>Family Encouragement of Tobacco Use</td>
</tr>
<tr>
<td>Feeling of Invincibility</td>
</tr>
<tr>
<td>Idea of Fate</td>
</tr>
<tr>
<td>Personal Choice</td>
</tr>
<tr>
<td>Social Environment</td>
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<tr>
<td>Tobacco in the Media</td>
</tr>
<tr>
<td>Adolescent Smoking Prevention Strength</td>
</tr>
<tr>
<td>Improved Knowledge/Education</td>
</tr>
<tr>
<td>Short-term Consequences Important</td>
</tr>
<tr>
<td>Social Norm Change</td>
</tr>
<tr>
<td>Animal Sensitivity</td>
</tr>
<tr>
<td>Inability to Blow</td>
</tr>
<tr>
<td>No Alcohol</td>
</tr>
<tr>
<td>Difficulty Swallowing</td>
</tr>
<tr>
<td>Water Sports</td>
</tr>
</tbody>
</table>

*Headings in bold are families, normal font are codes

Application of Effective Ad Dimension Research

As outlined by the conceptual model (Figure 1), the third phase of this research project aims to apply the knowledge acquired in the systematic review and expert interviews in order to develop ideas for an evidence-based, adolescent-targeted, anti-tobacco advertisement. The first two phases revealed that serious health consequences presented in the testimonial format would be effective at reducing teen smoking. This project succeeded in revealing some of these serious health consequences of smoking.

The participant, a laryngectomy survivor, presented many consequences of his smoking and his surgery. As presented in Appendix G, the primary consequences of having a laryngectomy are loss of voice, the medicalization of life, the inability to blow, animal sensitivity, dietary restrictions, concern about
water, and loss of a sense of smell. Within some of these primary consequences are secondary consequences. In a visual context, the primary and secondary consequences were very powerful and evoked strong emotions. Many of these serious health consequences would make excellent anti-tobacco advertisements.

*Concern of Water*

Arguably the most striking serious consequence of smoking and the laryngectomy was the change in how the participant dealt with water. Multiple photographs were taken of water-related objects, and several secondary consequences resulted from this concern of the water (Appendix G). Before the surgery, water was something that he did not fear, in fact he enjoyed. After the surgery, water became something to be extremely aware of, and any activity that involved water was performed with much more care than ever before. This included showering, shaving and bathing. When asked how he felt about showering, he replied, “It is just a normal, everyday task that has become... not difficult, but has become a task that one has to pay more attention to. You have to be more conscious and more aware of what you are doing in the shower than you used to be.”

The participant also stressed how water-related activities that were enjoyable in the past were no longer available – water-sports, swimming, even...
relaxing in a hot tub. “That one [Figure 3] is supposed to be funny because it has a ‘closed’ sign in front of a pool. The reason I took it is because it is funny... the pool is closed to me, regardless of whether it is open or not.”

**Loss of Voice**

The loss of his voice was a serious consequence of his smoking and surgery that affected every aspect of his life. Communication—whether in person or on the telephone, became very difficult. The participant uses a Cooper-Rand tone generator in order to speak. He related how it changed his social interactions, because children would be fearful of the unusual sound, and even adults would be surprised.

As indicated in Figure 1, the loss of his voice resulted in the loss of his job. He worked in a profession where his voice was crucial. “I can say when I lost my voice, I lost my ability to work. Was I upset? Yeah. Did I cry a lot? Yes. If I had worked with my hands, it may not have been a big deal...I made a living by my voice. People relied on my voice.”

**Lost Sense of Smell and Inability to Blow**

The surgery also made simple things in his life difficult. With no communication between his lungs and mouth, blowing became very difficult. Blowing up balloons became impossible. With no way to bring air into his nose, his sense of smell and a great part of his sense of taste vanished.

**Medicalization of Life**

With his surgery, new medicines and daily maintenance of the stoma became crucial. Every day, he has to clean the stoma site and make sure it does not get infected. Every day he has to take medicines to reduce secretions and control his acid reflux. He has to become more careful of his pets, as their dander
can cause serious medical problems. In the past, he was healthy, and never need to visit the doctor. Now, he visits every few weeks.

**Dietary Restrictions**

After the laryngectomy, the participant was forced to make certain dietary changes because of physical restrictions. Swallowing became much more difficult because of strictures of the esophagus. Therefore, he is unable to eat anything dry or sticky, or he will choke. In addition, he is unable to drink alcohol, because the alcohol dries the body, and the lung secretions, making breathing very difficult.

**Insights into an Adolescent-Targeted Anti-Tobacco Campaign**

One of the benefits of the PAR approach and the Photovoice methodology is that it can reveal unexpected results. While this project did not intend to define the strengths and obstacles of an adolescent-targeted anti-tobacco mass media campaign, it was a subject that frequently blossomed from the photo-discussions. The Photovoice participant was a former adolescent smoker, and he believed from experience that prevention of adolescent smoking is very difficult using mass media. He outlined many obstacles to the success of a campaign at both the individual and social level (Appendix H).

**Individual Level Obstacles**

The participant outlined three individual level obstacles to the smoking prevention campaign: personal choice, fate, and sense of invincibility.

**Personal Choice**

Personal Choice is one of the most powerful obstacles to the success of a campaign. The participant believed that smoking is a personal decision – one that is difficult to affect. When asked if he blamed anyone or anything for starting to smoke he replied, “No, I don’t blame anybody. I don’t have anybody to blame. It’s... myself. I chose to smoke.” In addition, other laryngectomy survivors
interviewed reiterated this belief that organizers of mass media campaigns can never hope to supersede personal choice.

Fate

While not stated directly, fate was an important obstacle in adolescent smoking prevention. The participant believed that he was in some way destined to have this unfortunate outcome, and nothing he could have done would have prevented it. “…[W]ould it make a difference? I don’t know. If I had quit smoking five years earlier, would it have made any difference? Maybe not. Maybe it would have given me five more years with my voice, but I still would have ended up with this.”

Sense of Invincibility

Arguably the second strongest obstacle to adolescent smoking prevention is an adolescent’s sense of invincibility. The participant and other survivors pointed out that this feeling makes anti-smoking influences from the media less effective. “[W]hen you’re fifteen to twenty-one or older, you are indestructible. It doesn’t matter what type of activities you engage in. There is a sense of self-confidence that ‘nothing is going to happen to me’ or ‘it won’t happen to me.”

Social Level Obstacles

Five social level obstacles to an adolescent smoking prevention campaign emerged during this project: peer pressure, family encouragement of tobacco use, the social environment, unethical marketing practices, and tobacco in the media.

Peer Pressure

Peer pressure emerged as the most important social level obstacle to an adolescent smoking campaign. The participant felt that peer pressure was an important factor in smoking initiation, and that as long as adolescents smoked, they would encourage their peers to do so as well. “Maybe psychologically there were some influences that said I should smoke. It was more like I wanted to be
cool or I wanted to be like other people and fit in and succumb to peer pressure. This happens in a lot of areas with kids.”

**Family Encouragement of Tobacco Use**

At several points during the photo-discussions, the participant mentioned that various members of his family smoked. While not stated directly, it seemed apparent that smoking among family members was critical to the perpetuation of the habit. “So you jump in at Normandy with a carton of Lucky Stripes along with all the ammunition you carry. So now there are people who are fifteen. Their fathers are back from the war, and they have taken up the cigarette habit... sooner or later you see that it has been an ongoing process.”

**The Social Environment**

As a component of peer pressure, having an environment that encourages smoking is very powerful in perpetuating smoking initiation. The participant stated that throughout his life, he was in situations that made it very easy to smoke. “I knew people who smoked at college, I was a volunteer fireman in college, ran rescue in college, so...you might say in my own little world...I was with other firemen, other people who smoked, other people who ran rescue.”

**Unethical Marketing Practices**

Another important obstacle that must be considered by the organizers of any anti-tobacco campaign is the influence of unethical marketing practices. While the Master’s Settlement and legislation has made it illegal to market towards children, other unethical practices not covered by law still can be powerful. The participant discussed how the tobacco company practice of giving free cigarettes to GIs during World War II was pivotal in the perpetuation of smoking.
Tobacco in the Media

While campaign designers aim to use the media to dissuade adolescents from smoking, they must realize that other media forces are doing the opposite. The presence of tobacco products outside of commercials can be very important. “The tobacco target is right on the money. You have James Bond. You have all of the guys smoking on television in the Westerns... and the cop shows.”
Section 4: Discussion

The purpose of this study was to determine what dimensions make an adolescent-targeted anti-tobacco campaign, and then develop specific ideas for an upcoming media campaign. Appendix I outlines the process that this project suggests. First of all, mass media campaigns are more effective when used in conjunction with school-based or community anti-tobacco programs\textsuperscript{2,3,4,47}. Once an organization has decided to create a mass media campaign, it must create the advertisements. This research shows that organizers must consider five dimensions of ad effectiveness: production quality, theme, format, emotional tone, and actor characteristics. An organizer must also consider whether subgroups should be targeted, and how this will be accomplished. The recommended variables within those dimensions and means of targeting subgroups will be described in the next section.

In the next phase, a Photovoice project among smoking-related cancer survivors or their family members could help determine what would be effective stories for the commercials. The advertisements need to be produced, and then shown to adolescent focus groups. It is important to include subgroup focus groups, so that you can determine if the advertisement is effectively tailored for that population. Finally, an organizer must decide on the flight of the advertisement (how often it is shown, how long it stays on television, and where the ad will be shown). In the end, an effective, evidence-based adolescent-targeted anti-tobacco advertisement will be on air, and adolescent smoking initiation will decline.

Summary of Advertisement Effectiveness

Theme

Two themes consistently rate effective -- serious health consequences and second hand smoke. Five well-designed studies suggest the serious health
consequences theme is moderate to highly effective\textsuperscript{5,10,11,14,15}. Four expert interviewees agreed that the theme was an effective dimension\textsuperscript{18,19,20,21}. For this reason, the serious health consequences theme is a recommended theme in anti-tobacco advertisements.

While the amount of evidence for the secondhand smoke theme is moderate, the research consistently rates it as very effective. Four studies show positive effects of this theme, and two of those studies are well-designed and persuasive\textsuperscript{14,11}. Five participants agreed that the theme was an effective dimension\textsuperscript{18,19,20,21,24,25}. While this theme needs more research to confirm the interview results and research studies, it is reasonable to assume it will continue to rate highly. In addition, many experts believe this theme will be effective in targeted sub-groups.

Some research hails the industry manipulation theme as the best of all themes, while other research cautions its use\textsuperscript{11,13,14,15,16,17,23}. The expert interviews were more decisive; five participants indicated that the theme was an effective dimension\textsuperscript{18,19,20,21,25}. For this reason, the industry manipulation theme is recommended, as long as it is not used alone. Many of the authors found that industry manipulation does well when coupled with serious health consequences\textsuperscript{14,15}.

The short-term or cosmetic consequences of smoking theme appears to be generally less effective than the themes listed above. The only two quasi-experimental studies that include this theme are split as to the effectiveness\textsuperscript{11,16}. The two focus group studies also conflict\textsuperscript{13,27}. No study finds this topic highly effective – most hover in the middle ground. Four expert participants agreed that the theme is an ineffective variable\textsuperscript{18,19,21,24}. Until more research is performed on this theme, marketers should use it with caution.

The addiction theme may be an effective theme, but there is currently not enough research to support its general use. Two focus group studies rate it moderately effective\textsuperscript{13,14}, and three expert participants regarded the addiction theme as effective\textsuperscript{21,24,25}. While these results are encouraging, until more research confirms these results this theme will not be recommended.
Two themes lack extensive published research and were not supported by expert interviews – refusal skills and negative social consequences (social norms). In addition, the published data on the refusal skills and social consequences themes are contradictory. For this reason, marketers should use these themes sparingly or with caution until more research exists.

**Format**

Two formats consistently rate effective – the testimonial format and the use of graphic images. Five studies support the use of the testimonial format – three of which are well-designed studies. Four expert participants indicated that the testimonial format is effective. Celebrity testimonials should be used with caution, however, because a review by Schar et al and the interview with Expert C indicate that these testimonials are only effective when the celebrity relates how smoking has negatively affected his or her life.

With the exception of one small focus group study, the graphic image format rates very highly. The expert interviews showed contradictory results. One well-designed cross-sectional study, one strong focus group study, and one review of state and national campaigns consistently show that adolescents find the format to be highly effective. Because of the mixed published results and expert opinion, this format should be used with caution in adolescent-targeted anti-tobacco campaigns.

For the factual and “edgy” formats, too little evidence exists to truly judge how effective they are. However, from the focus group research that does exist, the factual format is promising. While the “edgy” format is used in the national truth™ campaign and the Massachusetts campaign, little research exists focusing on the format alone. The expert interviews revealed that the “edgy” format was effective, however, the experts cautioned that it may be due to its ties to the truth™ campaign. The little published evidence on this format makes it impossible to know whether it is truly effective. Until more research exists, this format should only be used with caution.
While teenagers recall humorous advertisements at high rates, they consistently judged these ads to be less effective. One strong cross-sectional study\textsuperscript{10}, two focus group studies\textsuperscript{14,29}, and one review of state and national campaigns\textsuperscript{12} show that teenagers find humor an ineffective format for anti-tobacco advertisements. While the experts agree that in general humor is less effective than other formats, they caution avoiding humorous advertisements altogether. Instead, humorous ads lighten up an otherwise serious campaign, and prevent adolescents from tiring of the negative message\textsuperscript{19,20,24}.

*Emotional Tone*

Strong, reliable evidence exists for negative emotional tone. Eight studies of varying study design indicate that negative tone is more effective than positive tone\textsuperscript{5,10,14,15,28,29,34,33}. In addition, the expert interviews agree that negative emotional tone is much more effective than positive emotional tone.

On the other hand, consistent, reliable evidence exists that cautions against the use of positive emotional tone. Five studies of varying methodologies and strength showed that positive emotional tone was either ineffective or only mildly effective\textsuperscript{14,29,32,33,36}. The expert interviews do state that two types of positive emotional tone ads – aspiration and hope ads – would probably be effective, but limited ads exist with these dimensions, and no research has supported their use\textsuperscript{18,19,20,24}.

*Production Quality*

One dimension that was discussed only briefly in the systematic review became very important in the expert interviews. The production quality of an advertisement was frequently discussed as a very important dimension, but one that is frequently ignored in the research studies\textsuperscript{19,20,24}. Including this dimension into future research could improve the overall quality of the results.
**Actor Characteristics**

Actor characteristics were another dimension that was virtually ignored in the systematic review, but emphasized in the expert interviews. The experts unanimously supported the use of real actors in advertisements, instead of actors and cartoons. The experts felt that real people provided a more truthful, believable ad.

**Targeted Subgroups**

The limited research within targeted subgroups makes drawing conclusions very difficult. Without more studies in this area, it will be impossible to tell if any theme, format, or emotional tone is more effective within each subgroup. However, two common ideas can be gleaned from the current research.

Authors consistently mention the theme of secondhand smoke. For both the African American and Latino population, adolescents rated this theme effective. In addition, the inclusion of a member of the target population in advertisements targeting that sub-group is recommended by several experts.

The systematic review and expert interviews indicated that there was very little research to indicate that mass media campaigns could be targeted by gender, smoking status or age. The little amount of research that does exist on these issues does not reveal any consistent findings.

Finally, the experts agreed with the results of the systematic review regarding means of tailoring a campaign for a North Carolina audience. The experts found that the North Carolina adolescents react to ads in the same way as teens across the nation, including the industry manipulation theme. The only means of targeting them specifically was to use North Carolinians in the ads.
Application of Effective Advertisement Research

Serious Health Consequences of a Laryngectomy

The final phase of this study used a visual qualitative method of participatory action research called Photovoice to determine what the smoking-related cancer survivor population would include in an adolescent-targeted anti-tobacco campaign. This project demonstrated how the Photovoice method can be used to develop an anti-tobacco testimonial that involves serious health consequences in a visual format that lends itself to development into a mass media advertisement. This method could easily be used with other populations to develop other advertisement schemes.

During this project, two serious health consequences emerged that would make excellent advertisements. First, the concern over water theme was the most striking consequence of the laryngectomy because it made any activity that involved water either much harder or impossible. Shaving, showering and bathing all became difficult daily tasks. Swimming, boating, and water-sports were no longer available. For many adolescents, water-sports are very important to them, and the potential losses of these activities are devastating.

Second, the theme of losing one’s voice was also a powerful message. Relationships changed and social interactions were made more difficult. Even more crucial, it was impossible to continue working. An advertisement using this theme is likely to be very effective at dissuading adolescents from smoking.

While not explored in as much detail, this project uncovered other themes that are possible targets of anti-tobacco campaigns. The inability to smell, taste and blow may seem too trivial to be used in an advertisement alone, but included with other results it could be very persuasive. Dietary restrictions and the medicalization of life also could be excellent additions to any campaign.

Obstacles to an Adolescent-Targeted Smoking Prevention Campaign

In addition to advertisement development, this study revealed the obstacles that any campaign must face. On the individual level, personal choice, the idea of fate, and an adolescent’s sense of invincibility all act to make mass...
media campaigns less effective. With these obstacles in mind, a mass media campaign can be developed to change adolescents’ perceptions and reduce their chances of smoking. On the social level, peer pressure, family encouragement of tobacco use, and the media all work against a mass media campaign. Any smoking prevention program targeted at adolescents needs to recognize these factors, and act to control them through activism and education. By identifying these barriers, an adolescent-targeted smoking prevention campaign can make changes to reduce their effect, and increase the success of the program.

Putting Research into Action

A PAR project essentially has three phases: the design phase, the research phase, and the action phase. The first two phases of this project were the design phase. The discussion above describes the research phase. The final phase involves participant action.

At the conclusion of the study, two obvious avenues of action emerged. The first was specific to the laryngectomy population, and involved developing a support network for recent laryngectomy survivors. The second was advocacy and education within the local adolescent anti-tobacco movement. While the second avenue was interesting to the participant, the support network was a more salient issue in need of action. For this reason, the participant chose the support network over the anti-tobacco movement.

One of the tenets of PAR is that community participants control the project. While project coordinators design the project, there is no way of knowing where the research will take you. This project took the group in two directions. While the project coordinators were invested in the anti-tobacco movement, it was unethical to deny our participant his desire to follow the alternate avenue⁴⁸.

This does not mean that other participants in other populations will not choose the anti-tobacco route. On the contrary, a laryngectomy population that already works towards adolescent smoking prevention such as SAVE (http://www.tobaccosurvivors.org) would be an ideal population for this effort.
This project demonstrates that this method can stimulate community action, and with an interested audience, may stimulate anti-tobacco action.

**Project Limitations**

*Limited Research*

The greatest limitation in this field is the lack of sufficiently high quality research. Currently, the most effective themes, formats, and emotional tones are indicated by a small number of focus group or survey studies. The greatest improvement in this area will result when the quality and number of the studies improves.

*Limitations of Research*

Besides the small amount of studies on this subject, the expert interviews outlined several limitations within the area of research.

**Multidimensional Stimuli**

Authors propose many different dimensions that may influence overall effectiveness - format, theme, emotional tone, production quality, sponsorship, consistency, clarity, and depiction of smoking behavior and spokesperson factors\(^{10, 49}\). The research presented in this review simplifies an ad into just one dimension in order to analyze it. Several experts discussed how it is impossible to separate each of the dimensions. For example, what makes one theme effective may be the fact that it is tied to a certain format. By simplifying the data, important relationships may be missed\(^{20, 24}\).

**High Dimension Correlation**

One expert pointed to the fact that many of the dimensions run together, and that pulling them apart is statistically difficult. For example, testimonials run hand in hand with negative emotional tone and the serious health consequences theme. In a study, it is difficult to say that one dimension or the other makes an advertisement more or less effective\(^{18}\).
Study Quality

Study Design

The expert interviews revealed that this area of research is hampered by the lack of methodologically sound studies, and also by the variation within each study type. Current research in this area is mostly limited to two designs – focus groups and quasi-experimental cross sectional studies. Farrelly et al., Wakefield et al. and Biener rely on surveys of random samples of adolescents to determine penetration and effectiveness of the messages. Meanwhile, Pechmann et al. relies on laboratory based surveys to determine which theme is most effective and why. It is unclear whether these two designs measure the same variable.

Focus group studies are inherently variable because of the nature of the group participants. Because of this variability, it is important when comparing studies to make sure that the focus group methodology has as little variation as possible. Unfortunately, a large number of methodologies exist for focus groups, and these varying designs are present within this field of research. Without detailed descriptions of the study design, summarizing results is extremely difficult.

Small Study Populations

Finally, one expert focused on the size of the majority of studies in this area. In terms of both population size and intervention size, many studies will be unable to find a large enough effect with such small populations and interventions. Only a larger study with a large population and an intense intervention will be able to determine the small differences in effect that the various dimensions produce.

Outcomes and Outcome Measures

Two experts discussed how multiple outcome measures, along with a reliance on secondary outcome measures, greatly hinders this research area. The variation of outcome measures is likely due to the variation of methodologies.
Depending on the study, the researchers may be interested in the perceived effectiveness, the intention to change behavior, the cognitive quality, or simply the recall. It is unknown whether these outcomes correlate with each other, or whether they serve as secondary outcomes for actual behavior change. There are no thematic studies that measure a change in behavior. These inconsistencies make comparing the data difficult\textsuperscript{19,20}.

**Limitations of Advertisements**

Research in this area often includes the same ads in a number of studies. One expert discussed that an over-reliance on a few advertisements may result in bias. If one ad – the “Pam Laffin” ad for example – consistently rates very highly, it will bias the results toward whatever theme, format or emotional tone that the experimenter is testing\textsuperscript{20}.

**Limited Search Strategy**

The search for articles for inclusion in this review was limited by the limitations of the individual search engines. Many of the journal search engines did not catalogue journals before the 1990’s. The only means to reach these journals was through the snowball technique. While this review included this strategy, there is little doubt that several older publications were not included into this review because they were missed by the two search methods.

**Interpretation of Strength of Results**

Research on adolescent-targeted anti-tobacco mass media campaigns is in its infancy. A standard study design, methodology or outcome measure does not exist. As a result, the outcomes from one study are difficult to compare with the outcomes of another. Because of this limitation, this review relied on the interpretation of the authors to guide the strength of results. This limitation thus became not only a limitation of the research area, but a limitation of this study as well.
Small Expert Participant Population

Only six expert interviews could be included in the results, and most of these experts were discovered from the systematic review. Therefore, the results of this phase of the project may be redundant information that has been presented in the earlier section. However, this research area is very small, and the number of researchers is severely limited. Therefore, with the amount of resources at hand, this study did collect a respectable sample of the expert population.

Small Smoking-Related Cancer Survivor Population

The depth and breadth of the results of the Smoking-Related Cancer Survivor Photovoice Project was limited by its study population. Only one participant volunteered for the study, despite rigorous recruitment efforts. This could have resulted from several factors. The population that this study is targeting is both older and ill, making it very difficult for them to participate. In addition, given their condition, preventing adolescent smoking is not a priority in this population.
Section 5: Conclusions

Background

Adolescent smoking is an important problem in the United States, and especially in North Carolina. Adolescent-targeted anti-tobacco mass media campaigns have been shown to be effective at reducing adolescent smoking, especially when combined with community programs\textsuperscript{2,3,4,5}. The purpose of this study was to collect qualitative and quantitative data in order to determine what dimensions of an adolescent-targeted anti-tobacco advertisement are the most effective at reducing adolescent smoking.

Phases of the Project

This project was divided into three phases. The first phase was a systematic review of the public health, marketing, and business literature. The second phase of this project included detailed interviews with experts in the field of adolescent-targeted tobacco prevention mass media campaigns. The final phase was a Photovoice project that attempted to apply the data from the first two phases in order to develop ideas for an evidence-based, adolescent-targeted, anti-tobacco advertisement.

Recommendations for an Evidence-Based Advertisement

The systematic review and expert interviews revealed that three themes – or the main idea within any given advertisement – are the most effective when used in an adolescent-targeted anti-tobacco advertisement: the serious health consequences theme, the secondhand smoke theme, and the industry manipulation theme. While these themes can be used alone, they may be even more effective when used together within a single advertisement. Themes that should be avoided within these advertisements are negative social consequences and short-term or cosmetic consequences.

The systematic review and expert interviews also revealed that certain formats – or the nature of the story or context utilized to convey the message –
were very effective when used in an anti-tobacco advertisement: the testimonial format and the “edgy,” youth-driven format. The humor format, while not as effective as the testimonial of youth-driven format, is effective at lightening an otherwise serious media campaign.

The first two phases of the study also agreed that advertisements that have a negative emotional tone and elicit a negative affective response such as sadness, anger or fear are more effective than advertisements that use positive emotional tone eliciting a positive affective response such as humor, hope, or inspiration. Some advertisements that use the inspiration or hope have the potential to be effective, but few ads use this approach, and no research exists to bolster this finding.

The expert interviews revealed two other important dimensions to consider when designing an anti-tobacco advertisement. The first is production quality, or the professionalism of the ad. This dimension is possibly the most important of all dimensions. The second is actor characteristics. The expert interviews revealed that real people were more effective than actors or cartoons at delivering an anti-tobacco message.

Application of the Evidence-Based Recommendations

With these dimensions in mind, the third phase of this project aimed to use a visual, qualitative research method called Photovoice to develop ideas for the North Carolina Adolescent-Targeted Anti-Tobacco Mass Media Campaign. The previous sections revealed that real, North Carolina characters were needed to tell their story – or testimonial – about the serious health consequences of smoking. While limited by the number of participants, this phase was successful in developing these testimonials in a visual, photographic format that could easily be transmitted to the television audience.

Future Research Directions

The limitations outlined in this project revealed several areas that need future research. Within the adolescent-targeted, anti-tobacco mass media area,
there is a need for more powerful studies. However, it is unlikely that a randomized control trial will ever be possible for this research area. Realistically, these investigations need to employ large populations; employ at least a cross-sectional design; use validated outcome measures that either measure, or can substitute for measuring behavior; use validated commercials (the commercials are reliably rated along the different dimensions); and the study needs to measure production quality and actor characteristics.

Some areas need research more desperately than others. Certain themes, such as addiction, negative social consequences and refusal skills, do not have enough research to support their use. The factual and “edgy” formats also have too little data to encourage their use. While the humor format appears to be ineffective, its role in a larger campaign needs to be addressed. Finally, all of the targeted subgroups need more research to determine how best to target each group.

The final phase of this project, while hampered by the small study population, gave encouraging insights into possible mass media campaign development. With only one participant, over fifteen serious health consequences were discovered. In addition, the PAR approach encouraged the participant to use the data that was uncovered. This project has the potential to develop, in a visual media, riveting serious health consequences, and encourage the participants to use them in a testimonial format in a mass communication campaign. In the future, projects that use family members of smokers who have died or younger cancer patients as their study population will likely be more successful.
Section 6: References


10 Biener, Lois, Ming Ji, Elizabeth A Gilpin and Alison B Albers. “The Impact of Emotional Tone, Message and Broadcast Parameters in Youth Anti-Smoking Advertisements.” (Unpublished)


Quattlebaum, 65/84


Quattlebaum, 66/84


42 CDC. “Facts on Women and Tobacco.” CDC Fact Sheet, 1998A.


45 White, V, N Tan, M Wakefield, D Hill. “Do Adult Focused Anti-smoking Campaigns Have an Impact on Adolescents? The Case of Australian


### Appendix A: Critical Appraisals of Selected Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Study Type</th>
<th>Advantages</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goldman and Glantz, 1998</td>
<td>Focus group</td>
<td>Large number of focus groups (186) No description of focus group methodology</td>
<td>No outcome measures No exact number of children No means to determine absence of bias No data on ethnic group/sex/smoking status Unknown reward for participation Advertisements not tested for consistency</td>
</tr>
<tr>
<td>McGloin and Burritt, 2002</td>
<td>Focus group</td>
<td>Manageable number of Focus Groups (10) No data on intention to change behavior</td>
<td>Unknown session length Only &quot;at-risk&quot; population (experimenters/smokers) Advertisements not tested for consistency</td>
</tr>
<tr>
<td>Stafford Report, 2003</td>
<td>Focus group</td>
<td>Standardized and validated focus group methodology</td>
<td>No data on intention to change behavior Unknown reward for participation Radio ads - not television Advertisements not tested for consistency</td>
</tr>
</tbody>
</table>

Quattlebaum, 69/84
<table>
<thead>
<tr>
<th>Study</th>
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<th>Advantages</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Murphy, 2000</td>
<td>Focus group</td>
<td>Large sample size (285)</td>
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</tr>
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<td></td>
<td>Mix of smoking status/age/gender/income</td>
<td>Possible moderator bias</td>
</tr>
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<td></td>
<td></td>
<td>Large number of commercials (35)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Outcome measure = intention to change behavior</td>
<td>&quot;Convenience sample&quot; (Selection bias)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Smaller number of focus groups (8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Included emotional tone and theme data</td>
<td></td>
</tr>
<tr>
<td>Peracechio and Luna, 1998</td>
<td>Focus group</td>
<td>Standardized and validated focus group methodology</td>
<td>Old study - may not represent current trends</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mix of gender/smoking status/income/ethnic group/age</td>
<td>No questions on specific themes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Audio taped/trained moderator</td>
<td></td>
</tr>
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<td></td>
<td>Smaller number of focus groups (20)</td>
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</tr>
<tr>
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<td></td>
<td>Reasonable number of participants/group (5-6)</td>
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<td></td>
<td></td>
<td>Systematic, validated analysis</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Reasonable length (50 min)</td>
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</tr>
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<td></td>
<td></td>
<td>Outcome measure = perceived effectiveness</td>
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<td>Reister and Linton, 1998</td>
<td>Focus group</td>
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<td></td>
<td>Unknown outcome measures</td>
<td>No data on intention to change behavior</td>
</tr>
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<td></td>
<td></td>
<td>No commercials used</td>
<td>Unknown reward for participation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Old study - may not represent current trends</td>
<td>Limited to themes</td>
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<tr>
<td>McKenna and Williams, 1993</td>
<td>Focus group</td>
<td>Representative sample for age</td>
<td>No description of focus group methodology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unknown number of focus group participants</td>
<td>Unknown outcome measures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Possible moderator bias</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Unknown outcome measures</td>
<td>No commercials used</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unknown reward for participation</td>
<td>Old study - may not represent current trends</td>
</tr>
<tr>
<td>Study</td>
<td>Study Type</td>
<td>Advantages</td>
<td>Limitations</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Biener, 2002</td>
<td>Cross-sectional study</td>
<td>Trained coders</td>
<td>No validated outcome measure</td>
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<tr>
<td></td>
<td></td>
<td>Statewide survey</td>
<td>No data on intention to change behavior</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High response rate (~60%)</td>
<td>Categorized by ad campaign, not theme</td>
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<td></td>
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<td>Large sample size (733)</td>
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<td></td>
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<td>Outcome measure = recall and perceived effectiveness</td>
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<td></td>
<td>Mix of smoking status/age/gender</td>
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<td>High response rate (~58%)</td>
<td>Limited to population with phones</td>
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<td>Outcome measure = recall and perceived effectiveness</td>
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</tr>
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<td></td>
<td>Mix of smoking status/age/gender</td>
<td>? Generalizability outside state</td>
</tr>
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<td></td>
<td>Advertisements tested for consistency</td>
<td>Limited number of commercials (8)</td>
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<td></td>
<td></td>
<td>Statewide survey</td>
<td>Unknown mix of ethnic groups/income level</td>
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<td>Farrelly et al, 2002</td>
<td>Cross-sectional study</td>
<td>Over-sampled African Americans/Hisp/Asians</td>
<td>No specific categorization of theme</td>
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<td>National random sample</td>
<td>Advertisements not tested for consistency</td>
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<td>Large sample size (6897)</td>
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<td>Montazeri and McEwen, 1997</td>
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<td></td>
<td></td>
<td>No validated outcome measure</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td>Advertisements not tested for consistency</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Old study - may not represent current trends</td>
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</table>

Quattlebaum, 71/84
<table>
<thead>
<tr>
<th>Study</th>
<th>Study Type</th>
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<th>Limitations</th>
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<td>Pechmann and Goldberg, 1998</td>
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<td></td>
<td></td>
<td>Advertisements tested for consistency</td>
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<tr>
<td></td>
<td></td>
<td>Outcome measure = intention to change behavior</td>
<td>No validated outcome measure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large Sample Size (1,658)</td>
<td>Limited to themes</td>
</tr>
<tr>
<td>Pechmann et al, 2003</td>
<td>Quasi-experimental cross-sectional design</td>
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<td>Only 56 advertisements tested</td>
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<td>Reasonable reward ($1000 to schools)</td>
<td>Behavior change not measured</td>
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<tr>
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<td>Large sample size (1667)</td>
<td>No &quot;real-world&quot; conditions</td>
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<tr>
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<td>Mix of ethnic group and gender</td>
<td>No long-term follow-up</td>
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<td>Limited to studying theme</td>
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<td></td>
<td></td>
<td>Validated survey tool/good outcome measures</td>
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</tr>
<tr>
<td>Wakefield et al, 2003</td>
<td>Quasi-experimental cross-sectional design</td>
<td>Large number of commercials (50)</td>
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<tr>
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<td>Mix of countries/gender/smoking status</td>
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<td>Large sample size (615)</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Standardized and validated survey methodology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outcome measure = recall and perceived effectiveness</td>
<td></td>
</tr>
<tr>
<td>VARIABLES</td>
<td># STUDIES/TOTAL</td>
<td>EFFECTIVENESS</td>
<td>EVIDENCE</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------</td>
<td>----------------</td>
<td>-----------------------------------------------</td>
</tr>
</tbody>
</table>
| Addiction                        | 2/11            | Moderately effective | 1) McGloin and Burritt, 2002  
                               |                 |                                            | 2) Goldman & Glantz, 1998 |
| Industry manipulation            | 8/11            | Not effective     | 1) Pechmann et al, 2003                      |
|                                  |                 | Mildly effective  | 2) Pechmann and Goldberg, 1998               |
|                                  |                 | Moderately effective | 1) McGloin and Burritt, 2002*               |
|                                  |                 | Highly effective  | 1) Goldman & Glantz, 1998  
                               |                 |                                            | 2) Farrelly et al, 2002  
                               |                 |                                            | 4) Biener, 2002 |
| Serious Health Consequences of Tobacco Use | 8/11            | Not effective     | 1) Goldman & Glantz, 1998  
                               |                 |                                            | 2) McKenna and Williams, 1993  
                               |                 |                                            | 3) Pechmann and Goldberg, 1998 |
|                                  |                 | Moderately effective | 1) Pechmann et al, 2003               |
|                                  |                 | Highly effective  | 1) McGloin and Burritt, 2002  
                               |                 |                                            | 2) Biener, 2002  
                               |                 |                                            | 3) Wakefield et al, 2003  
                               |                 |                                            | 4) Biener et al, 2003 |
| Refusal Skills                   | 2/11            | Not effective     | 1) Farrelly et al, 2002                    |
|                                  |                 | Highly effective  | 1) Pechmann et al, 2003                    |
| Secondhand smoke                 | 4/11            | Moderately effective | 1) McGloin and Burritt, 2002               |
|                                  |                 | Highly effective  | 1) Goldman & Glantz, 1998  
                               |                 |                                            | 2) Pechmann et al, 2003  
                               |                 |                                            | 3) Pechmann and Goldberg, 1998 |
| Short-term consequences of tobacco use (health, cosmetic) | 4/11            | Not effective     | 1) Pechmann and Goldberg, 1998               |
|                                  |                 | Mildly effective  | 1) Goldman & Glantz, 1998                    |
|                                  |                 | Moderately effective | 1) Pechmann et al, 2003               |
|                                  |                 | Highly effective  | 1) Pechmann et al, 2003  
                               |                 |                                            | 2) Peracchio and Luna, 1998 |
| Negative social consequences (and Social Norms) | 3/11            | Not effective     | 1) Goldman & Glantz, 1998                    |
|                                  |                 | Highly effective  | 1) Pechmann et al, 2003  
                               |                 |                                            | 2) Pechmann and Goldberg, 1998 |

* Indicates that the study found industry manipulation effective if used with serious health consequences
Appendix C: Types of Format

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th># STUDIES/TOTAL</th>
<th>EFFECTIVENESS</th>
<th>EVIDENCE</th>
</tr>
</thead>
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<tr>
<td>Testimonial</td>
<td>7/8</td>
<td>Highly effective</td>
<td>Biener, 2002</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Biener et al, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wakefield et al, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Murphy, 2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>McGloin and Burritt, 2002</td>
</tr>
<tr>
<td>Humor</td>
<td>4/8</td>
<td>Not effective</td>
<td>Schar et al, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Biener et al, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Murphy, 2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>McGloin and Burritt, 2002</td>
</tr>
<tr>
<td>Graphic Images</td>
<td>4/8</td>
<td>Not effective</td>
<td>Murphy, 2000</td>
</tr>
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<td></td>
<td></td>
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<td>Highly effective</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wakefield et al, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>McGloin and Burritt, 2002</td>
</tr>
<tr>
<td>Factual</td>
<td>2/8</td>
<td>Moderately effective</td>
<td>McGloin and Burritt, 2002</td>
</tr>
<tr>
<td>&quot;Edgy,&quot; Youth Driven</td>
<td>2/8</td>
<td>Not effective</td>
<td>McGloin and Burritt, 2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Highly effective</td>
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### Appendix D: Types of Emotional Tone

<table>
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<th>VARIABLES</th>
<th># STUDIES/TOTAL</th>
<th>EFFECTIVENESS</th>
<th>EVIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e.g. humor, inspiration)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mildly effective</td>
<td>1) Biener, 2000 2) Riester and Linton, 1998 3) Murphy, 2000</td>
</tr>
<tr>
<td>(e.g. anger, outrage, sadness, shock, fear)</td>
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</tr>
</tbody>
</table>
Appendix E – Standardized Expert Interview Form

Thank you so much for agreeing to be interviewed for our project. As I (wrote in my email/stated in our previous conversation), the University of North Carolina Tobacco Prevention Evaluation Program has been contracted to provide information to be used in the creation of a statewide media campaign (primarily using television) aimed at preventing tobacco use among North Carolina youth. After conducting an extensive literature review on youth-focused tobacco prevention media campaigns, we are conducting interviews with experts in the field to clarify and supplement our findings from the literature. There are four parts to this interview. The first part will focus on effective and ineffective themes to use in tobacco prevention and cessation ads. I will also be asking you about differences in theme effectiveness by gender, age, ethnicity, and smoking status. The second part will focus on the emotional tone of ads, again which you find to be effective or ineffective, and whether effectiveness differs by the sub-groups I just listed. In the third part, I will ask you for your recommendations of any specific advertisements or campaigns that you are familiar with that you think are particularly effective. Finally, I will ask you a couple questions specifically related to the North Carolina campaign. The interview should take approximately one hour and will be taped. If any of the information you provide is used in a future publication, we would not use your name without your explicit consent. Do you have any questions before I begin?

THEMES – EFFECTIVENESS

1. This first section will focus on themes. I am going to read you a list of commonly used themes in tobacco prevention and cessation messages directed toward youth. Please tell me, in your opinion, which of these you believe to be the most and which are the least effective. After you make your selections, you will have the opportunity to elaborate on why you believe those themes to be effective or ineffective.

  ___ Long-term consequences of tobacco use (e.g. lung cancer, death)
  ___ Short-term consequences of tobacco use (e.g. smell, stained teeth)
  ___ Social norms (Smoking unattractive; not everyone smokes)
  ___ Industry manipulation (Tobacco company marketing strategies and industry deception)
  ___ Refusal skills (Ads show how you can refuse cigarettes)
  ___ Secondhand smoke (Stresses the dangers of secondhand smoke to others)
  ___ Addiction (Ads focus on how smoking can control your life)
  ___ Social consequences (e.g. rejection from opposite sex, etc.)

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A combination of the above (list ______________________________________) 
Other (________________________________________________________________)

2. Please tell me on what basis you made these choices; for example, are you basing your selections on your best guess, your own work experience, studies you have read, or some other method?

THEMES - SUBGROUPS

3. Do you believe that there are differences in theme effectiveness by

<table>
<thead>
<tr>
<th>Gender?</th>
<th>Yes</th>
<th>No</th>
<th>Not sure</th>
</tr>
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<tbody>
<tr>
<td>Age?</td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
<tr>
<td>Ethnic groups?</td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
<tr>
<td>Smoking status?</td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
</tbody>
</table>

4. Please describe these differences for each group, and on what evidence you base your opinion.

Gender:

Age group:

Ethnic group:

Smoking status:

THEMES – CONTRADICTIONS IN LITERATURE

5. The literature on the subject of effective themes for tobacco prevention campaigns for youth does not point to any one clear answer. In fact, many studies have contradictory findings on which themes are most effective. What do you make of these contradictions? (If necessary, give example: For example, some researchers have found the message of industry manipulation to be effective, while others have not.)
EMOTIONAL TONE – EFFECTIVENESS

6. For the second part of the interview, I will be focusing on the emotional tone of ads. I am going to read you a list of different styles, or emotional tones, that are commonly used in tobacco prevention and cessation messages directed toward youth. Please tell me, in your opinion, which of these types of ads you believe to be the most effective and which are the least effective.

___ Those that are humorous or silly (e.g. ad where boy coughs a lung up at dinner table)
___ Those that employ satire (e.g. ad where youth thanks tobacco industry execs)
___ Those that convey aspiration or hope (e.g. ads that show role models, like ad with women’s soccer team)
___ Those that depict graphic images (e.g. ads that show effects of tobacco on a smoker’s lung)
___ Those that provoke anger or outrage (e.g. ads that describe tobacco industry’s deceptive marketing)
___ Those showing personal, moving testimonials (e.g. ads where someone describes losing a loved one to effects of tobacco use)
___ Those that are thought-provoking (e.g. ads that give statistics about number of people who die from tobacco use)
___ Those that are shocking or edgy (e.g. ad that shows body bags piled up)
___ Those that elicit fear (e.g. ads that show people suffering from the consequences of tobacco use)
___ A combination of the above (list _____________________________)
___ Other (________________________________________________________________________)

7. As before, please tell me on what basis you made these choices

__________________________________________________________

Quattlebaum 78/84
EMOTIONAL TONE – SUBGROUPS

8. Do you believe that there are differences in style (or emotional tone) effectiveness by

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic groups?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking status?</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

9. Please describe these differences for each group, and on what evidence you base your opinion.

Gender:

Age group:

Ethnic group:

Smoking status:

10. In your experience, which type of ads are the most effective, those that use

<table>
<thead>
<tr>
<th></th>
<th>Cartoons</th>
<th>Actors</th>
<th>“Real people”</th>
</tr>
</thead>
</table>

and why?

ADS/CAMPAIGNS

11. For the third section, we will talk about existing tobacco prevention ads. If you are familiar with any existing tobacco prevention/cessation ads directed to youth, which specific ones do you believe are the most effective?

12. Do you believe that any of these ads would be particularly effective here in NC? Why?

13. If existing ads are used here, do you believe that a tag should be added to make the ad specific to North Carolina?

14. (IF SO) What kind of information should this tag include?
15. What do you think would be the ideal number of ads to use in a media campaign? For example, if we found six ads to be particularly effective with youth, how many of these should be used in the campaign? (PROBE FOR ISSUE OF DOSE AS WELL)

16. Finally, I have a few questions specific to the North Carolina campaign. Are you familiar with any state campaigns that you think would serve as good examples for North Carolina in planning its own campaign?

17. Please describe what type of campaign you believe would be most effective here in NC.

18. Because the budget of the North Carolina media campaign will be limited, do you believe it would be more efficient to target the campaign to certain groups, for example by age or smoking status?

19. (IF ISSUE OF INDUSTRY MANIPULATION NOT ALREADY ADDRESSED IN ABOVE ANSWERS) One small focus group study here in North Carolina showed that the theme of industry manipulation was not popular with youth participants, yet some researchers have hypothesized that the issue of local tobacco production is irrelevant to the components of an effective campaign. Can you please comment on this?

20. Is there anything else you would like to add?

21. Is there anyone else you think we should talk to?

---

Thank you so much for your time. Your answers will assist us in our recommendations for planning an effective media campaign directed toward preventing and reducing tobacco use among North Carolina youth.
Appendix F – SHOWeD Discussion Guide

1) SEE:
What is it that you see in this photograph?

2) HAPPENING:
What is happening in this picture? (How do people feel about it?)
When we see this (action, thing...), what is happening?
How do you as lung cancer survivors and researchers feel about this situation?

3) OUR:
How does this relate to our lives? (How do we feel about it?)
Have you had personal experiences when this (thing, action) occurred in your life?
Have you known other lung cancer survivors who have experienced this?
What other situations have you experienced like this?
Is this common? Could this happen to other smokers or people with lung cancer?
How do you feel about it?
What problems are related to this?

4) WHY
Why does this exist or happen? What are the root (main) causes (natural, cultural, social, political, racial...)?
What causes this (action, thing...)?
But why? (getting to the root of the problem)
How does this impact our families or community when this happens?
Who benefits/wins when this happens?
Who loses?
Who is responsible for perpetuating this situation?

5) EVALUATION/EMPOWERMENT
How can we become empowered with our new social understanding?
How are we part of the problem?
How can we be part of the solution?
What are some of the reasons that we allow this (action, thing...) to persist?
What are some causes of allowing this (action, thing...) to persist?

6) DO
What can we do about these problems in our lives?
Given what we see is going on and how we are part of the problem and solution –
What can we do?
Appendix G: Long-Term Consequences of a Laryngectomy
Appendix H: Perceived Strengths and Barriers to an Adolescent Smoking Prevention Campaign
Appendix I: Theoretical Framework for Advertisement Development

[Diagram showing the theoretical framework for advertisement development]