

# Connecticut Youth Prevention Media Campaign Final Evaluation Report

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## **Executive Summary**

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The CT Department of Public Health (CT DPH) has funded a tobacco control counter-marketing campaign with the goals of preventing tobacco use among youth and young adults. The prevention campaign used a contest format to solicit self-produced anti-tobacco advertisements from youth and young adults. Winning ads were chosen through a combination of expert panel selection and public voting. The winning spots were placed online and on broadcast and cable television.

The youth prevention campaign ran from April 15, 2010 through August 29, 2011. The first component of the youth prevention campaign was a call for entries for the “It’s a Waste” contest, in which youth were asked to create an anti-tobacco video message. Ads promoting the contest were run from April 15 through May 4, 2010. The target audience for this campaign was all youth and young adults 13 to 24 years old. Entries could be submitted in one of four categories: 13 to 14 years old, 15 to 17 years old, 18 to 24 years old, and a Spanish-language youth category. The second youth prevention component featured the winners of the “It’s a Waste” contest, and winning ads were run May 31 through August 29, 2011.

The CT DPH contracted with Professional Data Analysts, Inc. (PDA) to conduct a process and outcome evaluation of the youth prevention campaign. In doing so, we conducted a longitudinal telephone survey targeting Connecticut young adults aged 18 to 24 years. Data was collected for the Wave 1 survey between March 16 and April 2, 2010, with 301 surveys collected. Data collection for Wave 2 was collected from September 15 through October 31, 2010. A total of 200 surveys were collected at Wave 2.

Data collection for Wave 3 was collected from June 16 through July 11, 2011. A total of 152 surveys were collected a Wave 3. Wave 3 assesses media buys from November 29, 2010, through June 20, 2011 (the last date of verified media buys we received from the vendor). Thus, Wave 3 is defined as November 29, 2010 through June 20, 2011.

Overall, the CT DPH produced a campaign with several notable successes, a few areas for improvement, and some considerations for planning campaigns moving forward. This section summarizes findings in these areas, and more specific key findings are presented below.

### **Successes**

The media campaign shows a large improvement in the levels of Gross Rating Points (GRPs) from Wave 2 to Wave 3. Nearly five times as many GRPs were run in Wave 3 versus Wave 2, ads were run over a longer time period (30 weeks with GRPs at Wave 3; 17 weeks at Wave 2), and average GRPs per month and per quarter showed great improvement. This should be considered a success for the campaign as we suspect that much lower GRPs resulted in very low awareness of ads at Wave 2. We hypothesize that the improvement in GRP levels should result in a more significant impact on key outcome variables, such as awareness of campaign ads, norms, and intention to smoke. Thus, CT DPH should be commended on increasing GRP levels at Wave 3.

Overall, the campaign showed great improvements in ad and slogan awareness over time. This is no doubt a direct result of improved GRP levels from Wave 2 to Wave 3. About 11% of respondents at Wave 3 had unaided awareness of any “Tobacco It’s a Waste” ad, in comparison to about 5% at Wave 2. About 17% of participants had confirmed event or theme awareness for the ad “On Top of Old Smokey”. About 10% of participants had confirmed event or theme awareness for “Knowing More”. About 24% of participants had confirmed event or theme awareness for “Is it Really Worth it?” Awareness of ads improved significantly between Wave 2 and Wave 3. Slogan awareness also improved at each wave. At Wave 1, 33% of participants reported slogan awareness. At Wave 2, 45% reported slogan awareness. At Wave 3, the number jumped to 51%. This was a statistically significant difference.

Both the improvement in GRPs and ad and slogan awareness likely influenced a change in results from Wave 2 to Wave 3, where we see a significant change in the attitudes of those exposed to the campaign in comparison to those not exposed. This result, perhaps more than any other, suggests that exposure to the campaign had a tangible and significant impact on the attitudes of young people in Connecticut.

## **Areas for Improvement**

Although ad awareness may still be considered somewhat low, it is now high enough that we should be able to see changes in key outcomes. Nevertheless, it is our recommendation that future campaigns continue to strive to meet CDC recommended levels in GRP levels, as doing so should result in a corresponding increase in ad awareness. Additionally, in future campaigns where funding issues prevent achieving CDC recommended GRP levels, it may be beneficial to engage in pulsing, where ads are run at high frequencies for relatively short amounts of time. This approach has been shown to maximize ad impact when GRP levels are low.

Social norms, intention to smoke, and issue importance did not change over time based on exposure to the campaign. It was hypothesized that these variables would be impacted by exposure to the campaign. Many factors such as pro-tobacco campaigns, taxes and legislation, and frequency of tobacco-related issues in the news may have also contributed to the lack of change in these variables. Nevertheless, changing these variables in future campaigns should continue to be an important goal.

## **Future Considerations**

PDA identified three key areas that should receive greater attention in future campaign efforts.

First, results suggest that the campaign is targeting attitudinal beliefs that matter to the target audience in terms of informing intention to smoke, as nine of the 10 beliefs at Wave 3 were significantly related to intention to smoke, with five of the nine showing a moderate or strong correlation. This suggests that the specific content highlighted in the ads (e.g. “I would have trouble finding a girlfriend/boyfriend) matters to the target audience in terms of informing how likely they are to smoke. Furthermore, the campaign was successful in improving two of these beliefs-“I would have something in common with a group I like” and “using tobacco would help me relax”- between Waves 2 and 3. In other words, participants had more anti-tobacco views on

these beliefs at Wave 3 compared to Wave 2. It is our recommendation that future campaigns assess which attitudinal beliefs inform intention to smoke prior to choosing advertising content. In doing so, future campaigns can choose ads that specifically highlight the issues that matter most to their target audience, maximizing ad impact.

Second, to more accurately assess the target audience, we divided non-users into two groups: on the fence non-users, who had higher pro-tobacco attitudes, and committed non-users, who had strong anti-tobacco attitudes. Results suggest that there are differences in several key outcome variables based on whether one is a tobacco user, on the fence non-user, or committed non-user. These include attitudinal beliefs, social norms, and exposure to ads. These results suggest that differentiating between two different non-user groups is a fruitful approach to best reaching the target audience with campaign messages. We recommend future campaigns consider developing ads aimed specifically at on the fence non-users, as this group is particularly at-risk and should be a primary target of future campaign messages.

Third, those reporting awareness of the ads reported very little conversation about the ads, and results did not improve between Waves 2 and 3. This severely limits the amount of people receiving indirect exposure to the ads, and suggests that those seeing the ads generally didn't feel the need to talk about them further, a process that in itself facilitates recognition. However, this is not a surprising finding, given that the ads did not implore people to talk about them further. We recommend that future ads make a greater attempt to facilitate interpersonal conversation.

## **Conclusions**

In summary, CT DPH should be commended for seeing vastly improved results on key outcomes over time. Many of these improvements are likely a direct result of vast improvements in GRP levels between Waves 2 and 3. CT DPH can be confident that the "It's a Waste" campaign targeted and reached its target audience effectively, had a tangible impact on key outcomes, and improved smoking rates among young people in Connecticut over time. It is our recommendation that future campaigns continue many of the practices employed in the present campaign, with an eye toward continuing to improve GRP levels, stimulating interpersonal communication, and monitoring the use of new tobacco products such as e-cigarettes.

## Introduction

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The Connecticut Department of Health (CT DPH) has funded a tobacco control counter-marketing campaign with the goals of preventing tobacco use among youth and young adults. The media firm Elkinson + Sloves won a competitive bid process to conduct the campaign. The prevention campaign used a contest format to solicit self-produced anti-tobacco advertisements from youth and young adults. The theme for the contest, “It’s a Waste” was developed by the media vendor after conducting a series of focus groups with youth. Winning ads were chosen through a combination of expert panel selection and public voting. The winning spots were placed online and on broadcast and cable television.

The youth prevention campaign ran from April 15, 2010 through August 29, 2011. The first component of the youth prevention campaign was a call for entries for the “It’s a Waste” contest, in which youth were asked to create an anti-tobacco video message. Ads promoting the contest were run from April 15 through May 4, 2010. The target audience for this campaign was all youth and young adults 13-24 years old. Entries could be submitted in one of four categories: 13-14 years old, 15-17 years old, 18-24 years old, and a Spanish-language youth category. The second youth prevention component featured the winners of the “It’s a Waste” contest, and winning ads were run May 31 through August 29, 2011.

## The Evaluation

The CT DPH contracted with Professional Data Analysts, Inc. (PDA) to conduct a process evaluation of selected media deliverables and an outcome evaluation of media recall and its relationship to key outcomes. Findings from the process evaluation were intended to spur mid-course course corrections and to impact subsequent waves of the youth prevention media campaign. Likewise, the purpose of the outcome evaluation is to identify strengths and areas for improvement for future campaigns.

### The Process Evaluation

In two different process evaluations, PDA answered several key questions in hopes of recognizing successes and identifying areas for improvement to guide the campaign moving forward.

In the first process evaluation dated April 20, 2010, we assessed the ads chosen as semi-finalists in the call for entries portion of the media campaign and offered recommendations to the judges of the ads. PDA produced a report in memo format in which we used focus group data and existing literature to assess the efficacy of each ad. We suggested that ads should generally have a negative tone emphasizing the health effects of smoking, but that caution should be taken in using excessive fear appeals due to the potential of the audience rejecting the ad as

overwhelming or unrealistic. Furthermore, we proposed not using any ads from the youngest age group, as adolescents have a tendency to look toward older age groups for advice. DPH heeded our advice and chose ads that we deemed generally appropriate to achieving campaign goals.

In the second process evaluation, dated August 1, 2010, we commented on the media buy strategy for the campaign. We suggested abandoning a plan for continuous placement of ads at low GRPs, and instead placing breaks in ad buys where no GRPs are bought, to ensure adequate reach to produce detectable impact. Furthermore, we recommended increasing GRPs when at all possible. DPH continued to employ a continuous schedule, but did increase GRPs significantly from Wave 2 to Wave 3.

## **The Outcome Evaluation**

The original purpose of the youth prevention outcome evaluation was to determine the effectiveness of the youth prevention media campaign's impact on young adults 18 to 24 years old – specifically to understand the relationship between outcomes and the target audience's recall of campaign ads. We hypothesized that recall of one or more ads would be related to stronger outcomes, an indication of the campaign's effectiveness.

To answer this question, PDA developed an evaluation design that was longitudinal in nature. That is, we have collected data among the same participants at three separate time points, to assess changes in key outcomes among participants. This design also allowed us to assess recall of ads over time, as the ads continued to become entrenched in the media environments of young people in Connecticut. Using such a design allows an in-depth analysis of how recall of ads over time impacted key outcomes. Importantly, because outcomes such as social norms change often take significant time to take hold, the longitudinal design allows a more thorough assessment of the impact of the campaign than collecting data at only one time point.

This study is intended to represent Connecticut residents ages 18-24. This study examines these residents for strategic reasons. First, national trends and trends in Connecticut show that the prevalence of tobacco use among this age group is tending to increase over time, compared to younger age groups where tobacco use has decreased steadily. Therefore, the media targeted to young adults 18-24 is particularly important. Second, this age group was also chosen for study because its relatively greater prevalence of tobacco use and pro-tobacco attitudes provides greater opportunity and power to detect any changes in outcomes which may occur. Finally, this age group is more cost-effective to survey because parental consent is not required, so more 18 to 24 year olds may be surveyed, compared to younger Connecticut residents. Therefore, a survey of 18-24 year olds is more robust in its ability to detect any changes in outcomes which may be influenced by the media campaign.

As described above, PDA conducted a longitudinal study targeting Connecticut young adults aged 18 to 24 years. Survey data was collected by telephone interview in three waves. Data for the Wave 1 survey was collected between March 16 and April 2, 2010. Data collection for Wave 2 occurred from September 15 through October 31, 2010. A total of 200 surveys were collected at Wave 2. In conjunction with Wave 2 data collection, PDA assessed media buys from May 31

through November 28, 2010. Thus, in the present report, Wave 2 is defined as the period from campaign launch on May 31 through November 28, 2010.

Wave 3 data was collected from June 16 through July 11, 2011. Although the original plan was to collect data every six months, data collection was delayed due to funding issues. Thus, Wave 3 data was collected about 8 months after Wave 2 data collection. A total of 152 surveys were collected a Wave 3. Wave 3 assesses media buys from November 29, 2010, through June 20, 2011 (the last date of verified media buys we received from the vender). Thus, Wave 3 is defined as November 29, 2010 through June 20, 2011.

We have submitted two previous reports. The first, dated October 31, 2010, was a brief report that established baseline measures on key outcomes such as attitudes, beliefs, and slogan awareness. The primary purpose of this report was to assess how these measures changed over the course of the campaign. The second report, dated December 28, 2010, was a more in-depth assessment of how awareness of the campaign and campaign ads impacted key outcomes. Results revealed that because of very low GRP totals, awareness levels of the campaign, and specifically of campaign ads, was very low. This made it difficult to assess how the campaign impacted key outcomes. PDA recommended that GRP levels be increased. As this report indicates, the CT DPH heeded that advice, and a corresponding impact on key outcomes is demonstrated in the present report.

## This Report

As described above, this report was originally intended to assess the outcomes that the youth prevention media campaign produced by describing the relationship of recall of ads to selected outcomes. As was also described above, we discovered in Wave 1 and 2 that recall of the ads was not substantial enough to answer the original evaluation questions that we posed. Because the number of people who recalled each specific ad was insufficient for statistical analysis, our planned analysis would not have sufficient power to detect any positive finding that might otherwise be detected. Therefore, we developed a new set of evaluation questions that could be adequately answered by our survey and that would be helpful to the CT DPH. These questions are listed in Table 1 below, along with a rationale for each question.

**Table 1. Revised evaluation questions and rationales.**

<b>Evaluation Question</b>	<b>Rationale</b>
1. What is the relative strength of ad buys for Wave 3 of the evaluation?	PDA last assessed ad buys in the process report dated December 28, 2010. Because the strengths of ad buys directly impacts outcomes, this question is appropriate to revisit for this report.
2. How are the ads and the campaign performing on slogan and ad awareness over time?	Although we found ad awareness low in Waves 1 and 2 and did not expect changes at Wave 3, ad awareness is a critical measure to assess. Much higher rates of slogan awareness were reported at Waves 1 and 2, and the rate is updated here.
3. What is the relationship between beliefs and intention to smoke?	Attitudinal beliefs are critical in informing intention to use tobacco. Identifying key beliefs among a target audience allows CT DPH to select ads in the future that target those beliefs. Doing so would make the ads more likely to impact intention to use tobacco in a desirable direction.



4. How do the ads perform on measures of interpersonal communication over time?	Stimulating interpersonal communication allows for messages to be spread at much faster rates. The more ads are able to this, the more people will be exposed to them and the effective rate of reach would likely increase.
5. What are differences between tobacco users, committed tobacco non-users, and “on the fence” tobacco non-users on key outcomes? How did these groups change over time?	Non-tobacco users are a large group which might include more and less vulnerable members. Those who have more pro-tobacco attitudes (on the fence non-smokers) may be considered more vulnerable and those who do not (committed non-smokers) may be considered less vulnerable. This evaluation question allows us to examine changes outcomes for these two groups, who may react to ads differently.
6. To what extent does exposure to the campaign impact changes in key outcomes over time?	PDA last assessed the relationship between exposure and change in key outcomes in the process report dated December 28, 2010. Because exposure should directly impact key outcomes, it’s critical to revisit this question in this report, even if we suspect our analyses will not have sufficient power to detect actual changes because of relatively low levels of exposure.
7. What types of tobacco products are participants using most frequently?	New products such as e-cigarettes are being used at increasing rates. If participants are using these products, it may be necessary to design ad content aimed at curtailing use.

These analyses are a full assessment of campaign impact through the first three Waves, given some of the limitations seen in our data. Because key outcomes like social norm change in a longitudinal study often take a significant amount of time to fully manifest themselves, this report offers the first full insight into how the campaign impacted change on key outcomes over time.

The outcomes of interest include confirmed event or theme awareness of the ads, attitudes and key attitudinal beliefs about smoking, norms about smoking, level of concern about tobacco use, and intention to use tobacco.

While many of the questions are similar to ones we originally proposed, we have added analyses about how outcomes vary by use pattern (users, committed non-users, and “on the fence” non-users). We assessed non-users on the basis of their tobacco attitudes and found that two distinct groups emerged: those with more pro-tobacco attitudes in line with the attitudes of users, and those with highly anti-tobacco attitudes. We then used these three groups (users, committed, and on the fence) to assess differences on key outcomes. In doing so, the report provides an illustration on how to better target specific groups that may be more likely to initiate tobacco use.

Additionally, the study seeks to make recommendations for future campaigns. Specifically, in highlighting the attitudinal beliefs that are salient for the target audience, the study seeks to guide future ad content such that it will be as relevant and informative to the target audience as possible.

# Methodology

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## Survey Methodology

PDA conducted a longitudinal telephone survey targeting Connecticut young adults aged 18 to 24 years. Only those who completed a Wave 1 survey were contacted at Wave 2 and only those who completed the Wave 2 survey were surveyed at Wave 3. Those who provided an address at Wave 1 or 2 received a pre-notification letter prior to calling at Wave 3. Data was collected for the Wave 1 survey between March 16 and April 2, 2010. Because 38 respondents had to be thrown out due to incorrectly identifying themselves as being between 18 and 24 years old at the beginning of the survey, additional data was collected between May 6 and May 15, 2010. A total of 301 surveys were collected at Wave 1. Media for the current campaign launched May 31, 2010 and has continued to run through the present time.

Data collection for Wave 2 was collected from September 15 through October 31, 2010. A total of 200 surveys were collected at Wave 2. The Wave 2 report assessed media buys from May 31 through November 28, 2010. Thus, in the present report, Wave 2 is defined as the period from campaign launch on May 31 through November 28, 2010.

Data collection for Wave 3 was collected from June 16 through July 11, 2011. Although the original plan was to collect data every six months, data collection was delayed due to funding issues. Thus Wave 3 data was collected about 8 months after Wave 2 data collection. A total of 152 surveys were collected a Wave 3. Wave 3 assesses media buys from November 29, 2010, through June 20, 2011 (the last date of verified media buys we received from the vender). Thus, Wave 3 is defined as November 29, 2010 through June 20, 2011.

## Survey Instrument

The survey instrument was designed to correspond as closely as possible to David Sly and colleagues' work evaluating the Florida "truth" campaign<sup>1</sup>. Items on confirmed event and theme awareness follow exactly the structure of their evaluation surveys. Key demographic and outcome items are based on the Minimal Data Set recommended by the North American Quitline Consortium. Please see Appendix 1 for a copy of the survey employed in this study. Items on attitudes and norms were based on the theory of planned behavior<sup>2</sup>. These items and scales have been well-validated in many studies over the past twenty years.

## Study Sample

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<sup>1</sup> Sly DF, Heald GR, Ray S. The Florida "truth" anti-tobacco media evaluation: design, first year results, and implications for planning future state media evaluations. *Tobacco Control*. 2001;10:9-15.

<sup>2</sup> Ajzen, I. The theory of planned behavior. *Organizational Behavior and Human Decision Process*, 2001; 50: 179-211.

This study is intended to represent Connecticut residents ages 18-24. This study examines these residents for strategic reasons, as described earlier. First, national trends and trends in Connecticut show that the prevalence of tobacco use among this age group is tending to increase over time, compared to younger age groups where tobacco use has decreased steadily. Therefore, the media targeted to young adults 18-24 is particularly important. Second, this age group was also chosen for study because its relatively greater prevalence of tobacco use and pro-tobacco attitudes provides greater opportunity and power to detect any changes in outcomes which may occur. Finally, this age group is more cost-effective to survey because parental consent is not required, so more 18 to 24 year olds may be surveyed, compared to younger Connecticut residents. Therefore, a survey of 18-24 year olds is more robust in its ability to detect any changes in outcomes which may be influenced by the media campaign.

The Wave 1, 2 and 3 surveys employed a tri-frame sampling strategy comprised of random digit dial (RDD), listed, and cell phone samples. All samples were ordered from ASDE Survey Sampler, Inc. by telephone survey vendor Kerr & Downs, Inc.

## **Survey Procedures**

Telephone surveys were conducted by Tallahassee-based survey firm Kerr & Downs, Inc. using CATI technology and electronic dialing for RDD and listed samples. CATI technology and manual dialing were employed for cell phone samples.

Samples were completed on a quota basis and the maximum number of attempts for each working number was set at five. Interviewers at Kerr & Downs, Inc. were jointly trained by PDA and Kerr & Downs supervisors in order to familiarize interviewers with the advertising campaigns and to ensure consistent use of confirmed event and theme awareness items.

All respondents received an incentive check of \$10 at Wave 1 and Wave 2, and \$50.00 at Wave 3 for completion of the survey. Between Waves 1 and 2, Kerr & Downs, Inc. contacted each respondent to remind them of the upcoming Wave 2 survey, and provide an additional \$10 incentive to keep them engaged. After calling for Wave 2 for four weeks, PDA sent a letter to each non-respondent requesting their participation, and Kerr & Downs, Inc. left a voicemail message describing the survey and requesting participation. These efforts boosted the Wave 2 response rate to 67%. After calling for Wave 3 for four weeks, PDA sent a letter to each non-respondent requesting their participation, and Kerr & Downs, Inc. left a voicemail message describing the survey and requesting participation. These efforts boosted the Wave 3 response rate to 76%.

## **Eligibility Criteria and Screening Procedures**

For data collection, potential respondents were screened in two stages at Wave 1. First, Connecticut residents and adults were identified. Those households whose first respondents did not live in Connecticut six months of the year were considered ineligible for the survey. Second, the respondent was asked if they were between the ages of 18 and 24.

Second, adult tobacco users in the household were identified and randomized for participation in the survey. Adult potential respondents were asked how many adults in the household used tobacco in the last seven months. If there were no adults, then the household was considered ineligible. If there were one or more, the surveyor asked to speak to the tobacco user who had a birthday most recently.

## Response Rates

Based on our knowledge of the samples and the literature, we assume that the three frames in the survey sample – Cell, RDD, and Listed – are different from each other on demographic and clinical composition. Therefore, each sample required a different set of assumptions to calculate the response rate. We relied on AAPOR’s Standard Definitions for the formulae and methods to calculate response rates at Wave 1. To summarize, each survey frame (cell, RDD, listed) were weighted separately on gender, race (white, non-white), ethnicity (Hispanic, non-Hispanic), education (HS or less, some college, or more) and mother’s education (HS or less, some college, or more). The AAPOR Response Rate 3 is considered to be the best estimate, and falls between Response Rate 1 (a minimum estimate) and Response Rate 5 (a maximum estimate) (see Tables 2-4).

The combined best estimate of response rate (RR3, see Table 2) is 18%, with the individual sample response rates falling between 17% and 18%. The most conservative measure of response rate (RR1), in contrast, is much lower (6% combined), with greater variation between the samples (see Table 3). The response rate for the RDD sample is the lowest (3%), followed by the Listed sample (6%). The sample with the highest response rate for the conservative calculation method is the cell sample group (9%) followed by the Listed sample (6%). The most liberal measure of response rate (RR5) is much higher (see Table 4).

**Table 2. RR3 – Best estimate response rate by sample**

Sample	Wave 1	
	RR3	N*
Cell	16.8%	534.3
RDD	16.4%	121.8
Listed	18.0%	1058.9
<b>Combined (Cell, RDD, Listed)</b>	<b>17.6%</b>	<b>1715.0</b>

\* The denominators (N) include an estimate of the proportion of unknown eligibility that were eligible and may not be whole numbers.

**Table 3. RR1 – Minimum response rate by sample**

Sample	Wave 1	
	RR1	N
Cell	9.4%	955
RDD	2.7%	753
Listed	5.5%	3471
<b>Combined (Cell, RDD, Listed)</b>	<b>5.8%</b>	<b>5179</b>

**Table 4. RR5 – Maximum response rate by sample**

Sample	Wave 1	
	RR5	N
Cell	38.0%	237
RDD	37.0%	54
Listed	46.6%	410
<b>Combined (Cell, RDD, Listed)</b>	<b>42.9%</b>	<b>701</b>

Due to the longitudinal nature of the study, we could not use AAPOR'S Standard Definitions to calculate response rates at Wave 2 and Wave 3. Instead we calculated simple response rates for Wave 2 and Wave 3 for Cell, RDD and Listed (see Table 5). To calculate response rate for Wave 2, we divided the number of responders at Wave 2 by the number of responders at Wave 1. To calculate response rate at Wave 3, we divided the number of responders at Wave 2 by the number of responders at Wave 3.

Wave 2 had an overall response rate of 66%. At Wave 2, cell phone users had the highest response rate of 73%. Wave 3 had an overall response rate of 76%. RDD had the highest response rate of 80%. Overall, these response rates are high. Wave 3, in particular, had a very high response rate, given the increased length of time between Waves. DPH and Kerr & Downs should both be commended on achieving such a high response rate among a relatively small sample.

**Table 5. Response rates at Wave 2 and Wave 3**

Sample frame	W1 responders (N)	W2 responders (N)	W2 response rate (%)	W3 responders (N)	W3 response rate (%)
Cell	90	66	73.3%	52	78.8%
RDD	20	10	50.0%	8	80.0%
Listed	191	124	64.9%	92	74.2%
Total	301	200	66.4%	152	76.0%

## Analyses

All analyses were conducted in SPSS version 18. Analyses consist of descriptive statistics, t-tests, chi-square and Fisher's exact tests, and exploratory factor analysis. The procedures used in these analyses are discussed in greater detail below.

- **Descriptive Analyses:** Characteristics of the sample such as age, gender and income level were examined and tested for differences between groups. Key outcomes such as ad awareness were also examined descriptively.
- **T-Tests:** T-tests were used to examine mean differences on a number of outcome variables. For example, t-tests were employed to examine mean differences in attitudes and norms for those reporting confirmed awareness versus those not reporting confirmed awareness.
- **Chi-square and Fisher's exact test:** Chi-square and Fisher's exact tests were used to test for differences between two variables that aren't measured on a continuous numerical scale (e.g., responses 1, 2, 3, 4, etc.). The Fisher's exact test is employed when sample sizes are small.

## Exploratory Factor Analysis

Exploratory factor analysis was used to group the attitudinal items into meaningful categories that represent one idea or construct. This technique groups items together that are highly correlated. In other words, individual items that hold together well are placed into the same group, such that the individual items can be assessed as one group.

## ANOVA

A 1-way ANOVA was used to examine mean differences in key outcomes when more than two groups were involved. This method is similar to a t-test, but is used when there are more than two groups. Specifically, it was used to examine differences between tobacco users, and two different non-user groups on several key outcome variables. A full description of these three usage groups can be seen later in the report.

## Regression

We ran linear regression models to test for differences between a number of attitudinal belief items and intention to use tobacco. Regression models allow for a full test of the independent contributions of a number of independent variables on an outcome variable that is measured numerically (i.e. intention to smoke measured on a one to four). Furthermore, regression models allow for a full testing of how independent variables may interact with each other. For example, we used regression to test for a possible interaction of a specific attitudinal belief and usage group (user vs. non-user) on intention to use tobacco.

## **Definition of Outcome Variables**

This study considers a wide range of outcome variables, including awareness of “Tobacco It’s a Waste” ads, the importance of the issue of tobacco to respondents, attitudes about the consequences of tobacco, attitudes towards tobacco, norms about tobacco, and intention to smoke tobacco. This section defines each outcome variable for future reference throughout the rest of the paper. Actual rates for each outcome can be found in the Results section, page 14-34.

### **Awareness of the “Tobacco It’s a Waste Campaign”**

Of primary importance to the cessation media campaign is ad awareness. For the ads to have an impact on other outcome variables such as attitudes, norms and intention, they must first be remembered. We used a number of different variables to assess awareness of the campaign at Wave 3. They included unaided awareness, slogan awareness, event or theme awareness by ad, and any ad awareness. Each is described below.

#### **Unaided Awareness**

Unaided awareness is the most rigorous measure of ad awareness as the fewest prompts are provided to the respondent to assess if they remember the ad. To assess measure unaided awareness, participants were asked in free response format to summarize what they remember from any advertisements they’d seen in recent months mentioning tobacco. PDA categorized the open-ended responses as “Tobacco It’s a Waste” or some other campaign to assess whether they were aware of any of the campaign ads.

#### **Slogan Awareness**

Slogan awareness is defined as whether the respondent is aware of the slogan of the campaign, “Tobacco It’s a Waste.” To assess slogan awareness, we asked participants whether they’d seen or heard any of the following phrases on TV, online, or in other places: “Tobacco it’s a waste,” “Do you have what it takes,” “Become an ex,” “Too smart for Tobacco,” and “Don’t put that in your mouth.” If respondents answered “yes” to “Tobacco It’s a Waste”, then they were coded as having confirmed slogan awareness.

#### **Event or Theme Awareness by Ad**

Event or theme awareness indicates whether the respondent is aware of either a specific scene from an ad, or the general message of the ad. To assess confirmed event or theme awareness for each of the three ads, we first asked participants whether they had recently seen an anti-tobacco or anti-smoking TV ad, and described the first scene in the ad. For example, for the ad “On Top of Old Smokey”, we asked participants “have you recently seen an anti-tobacco or anti-smoking TV ad that begins by showing a woman shopping in a grocery store with a smokestack on her head?”

If participants answered ‘yes’, they were then asked to describe what happens in the advertisement. If the participant described any part of the ad, the interviewer was instructed to check a box indicating the ad was “event” confirmed, meaning that the participants confirmed a specific event in the ad. To assess theme awareness, participants were asked what the main message of the ad was. If the participant described the theme of the ad, the interviewer was instructed to check a box indicating the ad was “theme” confirmed. PDA comprehensively coded any open-ended responses and reviewed patterns of interviewer checks for both event and theme awareness in order to assess the validity of interviewer judgments.

Participants were coded as having confirmed event or theme awareness if they correctly answered either the event or theme question.

### **Any Ad Awareness**

Any ad awareness represents whether participants had confirmed event or theme awareness for any one of the three ads at Wave 3. To assess any ad awareness, we looked at the total number of participants who reported confirmed event or theme awareness for at least one ad.

### **Issue Importance**

Another important goal of the cessation media campaign is to influence social norms. Issue importance is used in the present study as one proxy of social norms. Respondents were asked to rate five issues on level of importance to them and their friends, and to them and their families. The five issues were tobacco use, alcohol use, getting enough exercise, eating fruits and vegetables, and eating organic food. Respondents were asked to rate the issue most important to them, second most important to them, and least important to them.

### **Attitudes-Consequences of Tobacco Use**

Understanding key attitudes of your target audience is the content of future ad campaigns<sup>3</sup>. According to the literature, attitudes about smoking impact whether a person will use tobacco. Furthermore, these attitudes shed light on what issues are particularly important for survey respondents, and what attitudes should be highlighted in future ads targeting that group. For example, determining that the attitude “smoking damages my lungs” is particularly important for 18 to 24 year olds in Connecticut would suggest that ads which highlight lung damage caused by smoking would be salient for that audience, and would be effective in preventing tobacco use. Therefore, we would recommend selecting ads that target the attitude “smoking damages my lungs” in future ad campaigns.

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<sup>3</sup> Fishbein, M. (2000). The role of theory in HIV prevention. *AIDS Care*, 12, 273-278.



PDA asked survey respondents several questions about the consequences of tobacco use. Respondents were asked on a 5-point scale how strongly they agree or disagree with a number of beliefs if they used tobacco at least once a month for the next 12 months. Examples include “I would smell bad” “I would lose my friends” and “I would damage my lungs.” See Table 6 below for full list.

**Table 6. Full list of attitudinal items**

Items
I would have something in common with a group I like
Using tobacco would help me relax
It would be a good way to meet people
I would smell bad
I would damage my lungs
I would lose my athletic ability
I could die from using tobacco
I would have trouble finding a boyfriend/girlfriend
I would spend money and not have enough to buy other things I really want
Even if I use just a little tobacco now, I would probably not be able to quit later

## Attitudes Towards Tobacco Use

Attitudes toward tobacco assess how positive or negative one feels about using tobacco. Attitudes have been found to directly inform intention to use tobacco<sup>4</sup>. For example, those with more favorable attitudes toward tobacco will be more likely to intend to use tobacco in the future than those with less favorable attitudes. Thus, changing attitudes toward tobacco should be a key campaign goal, as doing so will lead to decreased intention to use tobacco.

On a 5-point scale, participants were asked whether their occasional/periodic smoking would be:

- bad-good
- enjoyable-unenjoyable
- stressful-relaxing

They were also asked whether their regular smoking would be:

- bad-good
- enjoyable-unenjoyable
- stressful-relaxing

An overall attitudes scale was comprised of the six items (alpha=.885).

## Norms

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<sup>4</sup> Fishbein, M. (2000). The role of theory in HIV prevention. *AIDS Care*, 12, 273-278.

Norms toward tobacco are defined as a person's perceptions about how people important to them feel about them using tobacco, and how much people important to them are actually using tobacco. Similar to attitudes, norms have also been found to directly impact a person's intention to use tobacco. Thus, changing norms toward tobacco should be another important campaign goal, as changing norms should lead to decreased intention to use tobacco. Therefore, PDA measured norms towards tobacco as another way to assess campaign effectiveness.

On a five-point scale, participants were asked:

- how do you think people important to you would feel about you using tobacco, even one puff or pinch, in the next 12 months?
- how do you think people important to you would feel about you using tobacco regularly for the next 12 months?
- how many of your friends use tobacco?
- how many of your family members use tobacco?

An overall norms scale was created comprised of four norm items ( $\alpha=.651$ ).

## **Intention**

An important measure of campaign effectiveness is intention to use tobacco among non-smokers. For non-smokers who do not intend to use tobacco in the future, an effective campaign would help maintain that belief. Conversely, an effective campaign would change those non-smokers who say they intend to start using tobacco to an intention not to use tobacco. On a 4-point scale, respondents who did not identify as tobacco users were asked "how likely is it that you will use tobacco, even one puff or pinch, over the next 12 months?"

## Results

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### EQ1: What is the relative strength of ad buys for Wave 3 of the evaluation?

**Summary.** The strength of ad buys at Wave 3 went up substantially from Wave 2. Total GRPs and intensity levels showed great improvement from Wave 2 to Wave 3. We hypothesize that the improvement in ad buys should result in a marked improvement on key outcomes. Although GRP levels still fall short of CDC's recommended levels, the campaign should be commended for greatly improving the strength of ad buys.

As described in the Introduction section above, PDA assessed the media vendor's ad buy schedule from May 31, 2010 to November 28, 2010 in our December 28, 2010 process evaluation report. Because the strength of an ad buy is one factor that is directly related to outcomes, this report assesses the relative strength of Wave 3's ad buy as compared to Wave 1 and 2.

Our analysis for Wave 3 reflects media buys from the week of November 29 through the week of June 20, 2011 (the last week we received verified buys from the media vendor). Table 7 lists the total GRPs, weeks with any GRPs, average GRPs per month, and average GRPs per quarter for the Hartford/New Haven DMA, where the majority of advertising was placed. There was also a small amount of advertising placed on cable television in the Fairfield DMA. According to DPH's media flow chart, 15 GRPs per week would be placed in this DMA on a one week on, one week off rotation. However, we were not provided with verified GRPs for the Fairfield DMA, so GRPs will only be reported for the Hartford/New Haven DMA.

**Table 7. Strength of buy (GRPs) in the Hartford/New Haven DMA**

DPH Prevention Campaign	Campaign Date range	Corresponding Evaluation Wave	Total GRPs	Weeks with any GRPs	Average GRPs per month	Average GRPs per quarter
Contest	3/16/10-5/15/10	1	1,921.4	7	1,097.9	1,120.8
Winning spots	5/31/10-11/28/10	2	375.7	17	88.4	265.2
Winning spots	11/29/10-6/20/11	3	1573.1	30	209.74	629.2

The media campaign shows a large improvement in GRP levels from Wave 2 to Wave 3. Nearly five times as many GRPs were run in Wave 3 versus Wave 2, ads were run over a longer time period (30 weeks with GRPs at Wave 3; 17 weeks at Wave 2), and average GRPs per month and per quarter showed great improvement. We hypothesize that the improvement in GRP levels should produce more desirable outcomes, such as higher awareness of campaign ads, norms, and lower intention to smoke. In our December 28, 2010 report of findings for Waves 1 and 2, we found that awareness of campaign ads was very low, a result that can largely be attributed to the low levels of media buying. Lack of awareness made it very unlikely to see tangible results in other key outcome variables. Additionally, in our December 28, 2010 report, awareness levels

were too low to find a significant association between ad awareness and key outcomes. In the report, we concluded that awareness was very low due to low GRP levels. Thus, CT DPH should be commended on increasing GRP levels at Wave 3.

The CDC Best Practices for Comprehensive Tobacco Control Programs provides recommendations on the reach of ads (measured in TRPs) for ongoing anti-tobacco campaigns. The recommendation is that campaigns should achieve 1,200 TRPs per quarter during the introduction of a campaign and 800 TRPs per quarter thereafter. A second benchmark by which to assess campaign levels is presented in the Global Dialogue for Effective Stop Smoking Campaigns' Campaign Development Tool Kit (2007)<sup>5</sup>, which reports that positive results have been found in campaigns that maintained a presence of 400 to 600 TRPs/GRPs per four weeks during periods when their campaigns are on air.

The intensity of the Prevention Call for Entries (Wave 1) campaign approximately met both the benchmark for quarterly TRP levels and the benchmark for four-week TRP levels that have been shown to be effective in other campaigns. The intensity levels of the prevention winning spots campaign (Wave 2) fell substantially short of the intensity levels that have been shown to be effective elsewhere, both in terms of quarterly and 4-week TRP levels. At Wave 3, the prevention winning spots fell just short of both of these benchmarks. However, given the financial limitations of the campaign, achieving levels close to recommended levels at Wave 3 is commendable and should be considered a success.

Additionally, in future campaigns where funding issues do not allow CDC recommended GRP levels to be met, it may be beneficial to engage in pulsing, where ads are run at high frequencies for relatively short amounts of time. This approach has been shown to maximize ad impact when GRP levels are low.

## **EQ2: How are the ads and the campaign performing on slogan and ad awareness over time?**

**Summary.** We assessed ad awareness and slogan awareness at Wave 3 and compared them to previous results from previous waves. Overall, ad and slogan awareness improved significantly over time. Unaided awareness, confirmed event or theme awareness for 2 of the 3 ads, and slogan awareness all showed significant improvement. This is no doubt a direct result of improved GRP levels from Wave 2 to Wave 3. It is our recommendation that future campaigns continue to strive to meet CDC recommended levels in GRP levels, as doing so should result in a corresponding increase in ad awareness.

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<sup>5</sup> Global Dialogue for Effective Stop Smoking Campaigns. (2007) Tool Kit. Available from: [http://www.stopsmokingcampaigns.org/campaign\\_tool\\_kit](http://www.stopsmokingcampaigns.org/campaign_tool_kit)

This evaluation question assesses how the ads and the campaign performed on awareness of campaign content at Wave 3, and how awareness levels compared to Wave 2 awareness (and in the case of slogan awareness, Wave 1 as well). This is a critical evaluation question, as it assesses whether the campaign has improved in reaching its target audience over time. Clearly, it is critical to reach the target audience at levels high enough to elicit change in key outcomes, such as attitudes and norms. Because awareness levels were very low at Wave 2, it is particularly important that the campaign showed improvement in reaching its target population.

This section first describes respondents' level of awareness of the campaign at Wave 3 using four different measures, then reports on the change in each measure from Wave 2 to Wave 3. Next, this section describes how respondents changed in their awareness for each measure in greater detail. Because new (winning) ads were implemented after Wave 1, a comparison of ad awareness levels between Wave 1 and Waves 2 and 3 is not possible. Slogan awareness, however, is reported on for Waves 1, 2 and 3.

As described above, awareness of the campaign ads can be measured in several different ways. Overall, almost all measures of ad and slogan awareness showed substantial improvement across the range of awareness variables that we measured (see table 8). Even the most conservative measure, unaided awareness, increased from 5% to 11% from Wave 2 to 3. This represents a meaningful success for the campaign, and presents the opportunity to improve the percent of people who report unaided awareness in the future.

Each of the ads, "On Top of Old Smokey," "Knowing," and "Worth It" were assessed for event or theme awareness. Two of the three ads, "On Top of Old Smokey" and "Worth It" improved significantly from Wave 2 to Wave 3, while the ad "Knowing" had the same level of awareness at Wave 2 and 3. The ad "Worth It" had the highest level of awareness at Wave 3 and also saw the greatest jump from Wave 2 to Wave 3. Awareness for this ad increased over three-fold, from 7% to 24%, an absolute gain of about 17 percentage points. Awareness for the ad "On Top of Old Smokey" increased by ten percentage points from 7% to 17%.

Over one third of respondents at Wave 3 (34%) were aware of at least one ad using the event or theme awareness measure. This increased significantly from Wave 2. A majority of respondents reported being aware of the slogan "Tobacco It's a Waste" at Wave 3 (51%). Slogan awareness, the broadest and most liberal of measure that may be considered to represent a cumulative impact of the message of the campaign, increased from 33% at Wave 1 to 45% and 51% at Waves 2 and 3.

**Table 8: Percent of participants media awareness via different measures at Waves 1, 2 and 3**

	% Reporting		
	Wave 1 (N=301)	Wave 2 (N=200)	Wave 3 (N=152)
Unaided Awareness <sup>1</sup>	NA	4.5	10.5
Event or Theme “Smokey” <sup>2</sup>	NA	6.5	17.1
Event of Theme “Knowing” <sup>3</sup>	NA	6.5	10.2
Event or Theme “Worth it” <sup>4</sup>	NA	7.0	24.3
Any Ad Awareness <sup>5</sup>	NA	14.5	34.2
Slogan Awareness <sup>6</sup>	32.8	39.5	51.3

<sup>1</sup> z=2.18, p<.05

<sup>2</sup> z=3.14, p<.01

<sup>3</sup> z=1.36, NS

<sup>4</sup> z=4.58, p<.01

<sup>5</sup> z=4.35, p<.01

<sup>6</sup> z=3.80, p<.01

More specific changes in each type of awareness over time are discussed in greater detail below.

## Unaided Awareness

We know from the analysis above that the proportion of people who reported unaided awareness from Time 2 to Time 3 increased. It can also be helpful to look more specifically at the number of people who changed from being unaware at Wave 2 to aware at Wave 3 (a desirable change), compared to the number of people who changed from being aware at Wave 2 to unaware at Wave 3 (an undesirable change). Among the 152 participants who completed both the Wave 2 and Wave 3 survey, nine percent who did not report unaided awareness at Wave 2 did report unaided awareness at Wave 3 (see Table 9). Only three percent of participants who reported unaided awareness at Wave 2, did not report it at Wave 3 (p=.049). This is another positive finding for the campaign, as it suggests that the number of people who report being newly exposed to the campaign from Wave 2 to Wave 3 exceeds the number of people who no longer report exposure. In sum, more people are reporting exposure to the campaign for the first time than those who, for whatever reason, are no longer reporting exposure.

**Table 9. Unaided Awareness at Wave 2 and Wave 3 (N=152)**

		Unaided Awareness at Wave 2					
		Not Aware		Aware		Total	
		N	%	N	%	N	%
Unaided Awareness at Wave 3	Not Aware	132	86.8	4	2.6	136	89.5
	Aware	13	8.5	3	2.0	16	10.6
	Total	145	95.4	7	4.6	152	100.0

Exact significance test: p=.049

## Event or Theme Awareness by Ad

Event or theme awareness was calculated for each ad (summarized in Table 8). About 17% of participants had confirmed event or theme awareness for the ad “On Top of Old Smokey”. About 10% of participants had confirmed event or theme awareness for “Knowing More”. About 24%

of participants had confirmed event or theme awareness for “Is it Really Worth it?” All three ads improved substantially in awareness between Wave 2 and Wave 3. “Is it Really Worth it” showed the greatest improvement, moving from seven percent awareness at Wave 2 to over 24% at Wave 3.

Furthermore, one of the three ads showed statistically significant improvement among the 152 participants who completed both the Wave 2 and Wave 3 survey (see Table 10). For “On Top of Old Smokey”, 12.5% of participants moved from not aware to aware between waves, while only two percent moved from aware to not aware ( $p < .001$ ). “Is it Really Worth it” and “Knowing More” did not reach significance (not shown).

**Table 10. Event or Theme Awareness for “Smokey” at Wave 2 and Wave 3 (N=152)**

		Unaided Awareness at Wave 2					
		Not Aware		Aware		Total	
		N	%	N	%	N	%
<b>Unaided Awareness at Wave 3</b>	<b>Not Aware</b>	123	81.0	3	2.0	126	83.0
	<b>Aware</b>	19	12.5	7	4.5	26	17.0
	<b>Total</b>	142	93.5	10	6.5	152	100.0

Exact significance test:  $p = .001$

Overall, these are extremely positive findings for the campaign. All three ads showed significant improvement in confirmed awareness, and two of the three showed a statistically significant improvement among longitudinal participants. This should be taken as an indication that the campaign has gained momentum over time in reaching its target audience.

### Any Ad Awareness

About 34% of participants had confirmed event or theme awareness for at least one ad (see Table 11). This is a substantial improvement over Wave 2, in which 15% participants had confirmed event or theme awareness for at least one ad. Furthermore, among the 152 participants at Wave 2 and Wave 3, about 24% (37 of 152) moved from not aware to aware across waves, while just 5% (8 of 152) moved from aware to not aware across waves. This was a statistically significant improvement ( $p < .001$ ). This is another positive finding for the campaign, as it again suggests that the number of people being exposed to ads as increased over time.

**Table 11. Event or Theme Awareness (any ad) at Wave 2 and Wave 3 (N=152)**

		Unaided Awareness at Wave 2					
		Not Aware		Aware		Total	
		N	%	N	%	N	%
<b>Unaided Awareness at Wave 3</b>	<b>Not Aware</b>	92	60.5	8	5.1	100	65.6
	<b>Aware</b>	37	24.5	15	9.9	52	34.4
	<b>Total</b>	129	85.0	23	15.0	152	100.0

$Z = 4.17, p < .001$

### Slogan Awareness

At Wave 3, 78 of the 152 participants (51.3%) reported that they had seen or heard the phrase “Tobacco it’s a waste.” This is a positive finding for the campaign. While ad awareness is still relatively low (though showing significant improvement), over half of respondents reported being aware of the campaign’s slogan. Thus, although participants have somewhat low recall of individual ads, they are aware of the campaign as a whole at a much higher rate. This suggests that while the specific content of the ads is eluding respondents, they are aware of the overall campaign. This finding suggests that the campaign is on the “radar” of respondents, even if the messages of the campaign are not to the same extent.

Furthermore, among those surveyed at all three Waves, slogan awareness improved at each wave. At Wave 1, 32.8% of participants reported slogan awareness. At Wave 2, 44.7% reported slogan awareness. At Wave 3, the number jumped to 51.3%. This was a statistically significant difference ( $p < .001$ ). Again, this suggests that the campaign is continuing to gain momentum over time.

Overall, the campaign showed great improvements in ad and slogan awareness over time. This is no doubt a direct result of improved GRP levels from Wave 2 to Wave 3. Although ad awareness is still relatively low, it is now high enough that we should be able to see changes in key outcomes. It is our recommendation that future campaigns continue to strive to meet CDC recommended levels in GRP levels, as doing so should result in a corresponding increase in ad awareness.

### **EQ 3: What is the relationship between beliefs and intention to smoke?**

**Summary.** This evaluation question first assesses the relationship between attitudinal beliefs and intention to smoke, then assesses changes in intention to smoke over time. Results suggest that beliefs targeted in ads did have a positive correlation to intention to smoke, suggesting that they are appropriate to target in the campaign. Furthermore, several of the beliefs showed a significant improvement over time. We recommend that future campaigns evaluate what beliefs are relevant to the target audience in order to best target them with campaign messages.

This evaluation question assesses the extent to which specific attitudinal beliefs inform intention to use tobacco among the survey respondents. Attitudinal beliefs about tobacco are specific statements about the possible outcomes that could occur from using tobacco (e.g. “smoking will damage my lungs”) and have been found to directly inform intention to use tobacco<sup>6</sup>. For example, those with more favorable attitudinal beliefs toward tobacco will be more likely to intend to use tobacco in the future than those with less favorable beliefs. Thus, we are looking to

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<sup>6</sup> Fishbein, M. (2000). The role of theory in HIV prevention. *AIDS Care*, 12, 273-278.



identify those attitudinal beliefs that are related to intention to use tobacco so that the CT DPH may target those beliefs in future ad campaigns. We hypothesize that by choosing such ads in the future, media campaigns will be more likely to decrease young adults' intention to use tobacco.

This section is divided into two parts. In the first part, we assess the relationship between beliefs and intention at Wave 3. In the second part, we examine differences in beliefs over time, and how changes in those beliefs resulted in a corresponding change in intention.

### Wave 3

We developed our beliefs based on behavioral change theories such as the integrative model<sup>7</sup>. The model suggests that the belief should reflect the themes of the campaign, hasn't already reached a ceiling effect, and is amenable to change. The ten beliefs we suggested all reflect content from the campaign, have mean scores that are not excessively high or low, and are all statements that we deemed possible to be changed through persuasive messages.

Results from Wave 3 show the ten attitudinal beliefs and their correlation with intention to not use tobacco (see Table 12). A correlation ranges from 1 to -1, where 0 indicates no relationship between two variables, and 1 indicates a perfect positive relationship where one variable increases, and the other does so exactly. A correlation of -1 indicates a perfect negative relationship between two variables where one increases and the other decreases in the exact reverse way. Generally, a correlation of .3 or higher indicates a moderate relationship between two variables, and a correlation of .5 or higher indicates a strong relationship.

Note that some items indicate an undesired attitude (e.g. I would have something in common with a group I like if I used tobacco) and others indicate a desired attitude (e.g. I would smell bad if I use tobacco). So responding "strongly agree" to each means something different. In order to handle this, all items indicating an undesired attitude were reverse coded, such that answering "strongly agree" on this item is the equivalent of answering in the desired direction. We see in Table 12 below that item for which respondents have the most desirable attitudes are "I would have something in common with a group I like (reverse coded)," and "tobacco would help me relax" (mean of 3.84 and 3.45, respectively). Conversely, the items for which respondents have the least desirable attitudes (and the most room to improve) are "I would smell bad" and "I would damage my lungs." But which belief would be the most important to target in future ads? Looking at the relationship between belief and intention to quit can help answer this question.

Table 12 shows that nine of the ten beliefs are significantly related with the intention to not use tobacco. Of the nine significant beliefs, "using tobacco would help me relax" showed the strongest correlation with intention (.549). Several other beliefs were correlated with intention to not smoke at lower, moderate levels. "It would be a good way to meet people," "I would have something in common with a group I like," "I would smell bad," and "I would have trouble finding a girlfriend/boyfriend" all showed moderate correlations with intention ( $r = .388, .346, .341, .297$ , respectively).

Two conclusions can be drawn from these findings. First, the campaign is on the right track because the ad “On Top of Old Smokey” targets the belief “I would have trouble finding a girlfriend/boyfriend,” which is moderately correlated with intention to not use tobacco. This suggests that “On Top of Old Smokey” would be successful in reducing intention to use tobacco.

Second, using or creating future ads that targets the belief that smoking tobacco “helps me relax” would likely be successful in decreasing intention to use tobacco among young adults. Ads that target the other beliefs described above (“using tobacco is a good way to meet people”, “I would have something in common with a group I like”, and “makes me smell bad”) would also be likely to be effective.

**Table 12. Mean score of attitudes about consequences of using tobacco and its correlation with intention**

<b>Belief item</b>	<b>Mean out of 5 (1-strongly agree; 5-strongly disagree)</b>	<b>Correlation with intention to not use tobacco</b>
I would have something in common with a group I like (reverse coded)	3.84	.346*
I would smell bad	1.68	.341*
I would spend money and not have enough to buy other things I really want	2.25	.234*
Using tobacco would help me relax (reverse coded)	3.45	.549*
I would have trouble finding a girlfriend/boyfriend	3.04	.297*
I would damage my lungs	1.59	.141
Even if I use just a little tobacco now, I would probably not be able to quit later	2.98	.163*
I would lose my athletic ability	2.11	.249*
It would be a good way to meet people (reverse coded)	2.06	.388*
I could die from using tobacco	1.89	.245*

\*indicates statistical significance ( $p < .05$ )

## Change in Beliefs over Time

In addition to assessing how Wave 3 beliefs inform intention, we also assessed how the beliefs have changed over the duration of the campaign. When the mean score for a belief increases from Wave 2 to Wave 3, and that belief is targeted in one of the ads that ran, this provides preliminary evidence that the campaign may have been successful.

Table 13 shows how the six beliefs that were used at Waves 1, 2 and 3 changed over time. For each mean score, it is noted both whether the belief correlated with intention to use tobacco at that Wave, and whether the belief showed a significant change from the previous Wave.

**Table 13. Mean scores on key outcome items at Wave 1, 2, and 3**

Scale	Item	Wave 1 mean	Wave 2 mean	Wave 3 mean
Beliefs	I would have something in common with a group I like (reverse coded)	2.31	2.37	3.84 <sup>#</sup>
	I would smell bad	1.82	1.84	1.68*
	I would spend money and not have enough to buy other things I really want	2.33	2.44	2.25*
	Using tobacco would help me relax (reverse coded)	2.67	2.56	3.45 <sup>#</sup>
	Even if I use just a little tobacco now, I would probably not be able to quit later	3.06	3.12*	2.98*
	I would damage my lungs	1.89	1.66*	1.59

\*indicates statistically significant correlation with intention at that wave

<sup>#</sup>indicates statistically significant difference from Wave 2 to Wave 3

Results suggest that the beliefs “I would have something in common with a group I like” and “using tobacco would help me relax” showed a significant jump between Waves 2 and 3. As shown in the previous section, these two items were significantly related to intention to use tobacco. Therefore, we might expect to also see a corresponding impact on intention: while neither of these beliefs had a significant correlation with intention at Wave 2, both did at Wave 3. While the results are speculative, they might be interpreted as manifesting an impact of the campaign: that the increased GRPs of the campaign at Wave 3 both influenced survey respondents’ beliefs to be more anti-tobacco, and subsequently changed intention to use tobacco in a positive way. This is evidence that the campaign may have changed its target audience’s intention to use tobacco in a positive direction by changing beliefs about the consequences of using tobacco through campaign content.

In sum, results suggest that the campaign is impacting beliefs that matter to the target audience in terms of informing intention to smoke, as nine of the 10 beliefs at Wave 3 showed a significant correlation with intention, and five of the nine showed a moderate or strong correlation. Furthermore, the campaign was successful in improving two of these beliefs between Waves 2 and 3. In other words, participants had more anti-tobacco views on these beliefs at Wave 3 compared to Wave 2. Importantly, these two beliefs also correlated with intention at Wave 3, suggesting that the ads actually made participants less likely to use tobacco. The campaign should be commended for this improvement.

## **EQ 4: How do the ads perform on measures of interpersonal communication over time?**

**Summary.** Results showed that ads largely did not stimulate interpersonal communication. Furthermore, interpersonal communication did not show a significant

change from Wave 2 to Wave 3. We recommend that greater attention be paid to interpersonal communication in future campaigns, as stimulating talk can greatly increase the number of people exposed to campaign messages.

This evaluation question assesses the extent to which the ads stimulated interpersonal communication. In other words, how frequently did participants talk about these ads?

Recently, a great deal of research in mass communication has been published on the importance of stimulating interpersonal communication. Southwell and Yzer<sup>8</sup> suggest that stimulating interpersonal conversation ought to be a key goal of health campaigns. Stimulating conversation about the ads themselves and tobacco in general allows for greater diffusion of campaign ideas, because many people not directly exposed to advertising will be indirectly exposed through talk, and directed to sites like youtube and facebook to view the ads.

A number of campaigns aim to stimulate interpersonal communication. For example, direct to consumer advertisements frequently urge patients to talk with their doctors about obtaining an advertised drug. Hornik et al.<sup>9</sup> point out that a number of national antidrug media campaigns encouraged parents to talk to their children about drugs.

Interpersonal conversation can enhance the impact of exposure to advertisements and key outcomes in two ways<sup>10</sup>. First, it can increase those indirectly exposed to a campaign. When an individual is exposed to a mass-mediated health campaign and talks about it in his or her social network, the number of people indirectly exposed to campaign ideas increases exponentially. That secondary exposure can impact outcomes. Second, interpersonal conversation of campaign content can help people find others who support the same message of the ad, therefore reinforcing the message and its impact on outcomes.

At Wave 2 and 3, respondents were asked on a 4-point scale how much they talked to friends or relatives about each ad, with 1 being ‘a great deal’ and 4 being ‘not at all.’ Results indicate that among those exposed to the ads, interpersonal conversation about the ads was very low; respondents talked about the ads slightly more than not at all (see Table 14).

**Table 14. Mean conversation scores for the three ads at Waves 2 and 3**

Ad	Mean Conversation Score	
	Wave 2	Wave 3
On Top of Old Smokey*	3.17	3.69
Knowing More	3.63	3.60
Is It Really Worth It?*	3.52	3.67

\*NS

<sup>8</sup> Southwell and Yzer. The role of interpersonal communication in mass media campaigns. *Communication Yearbook*: 2010: 424-451.

<sup>9</sup> Hornik, R., Maklan, D., Cadell, D., Judkins, D., Sayeed, S., Zador, P., et al. (2000). *Evaluation of the National Youth Anti-Drug Media Campaign: Campaign exposure and baseline measurement of correlates of illicit drug use from November 1999 through May 2000*. Bethesda, MD: National Institute on Drug Abuse.

<sup>10</sup> Southwell, B.G., & Torres, A. (2006). Connecting interpersonal and mass communication: Science news exposure, perceived ability to understand science, and conversation. *Communication Monographs*, 73, 334-350.

Overall, those reporting awareness of the ads reported very little conversation, and results did not improve between Waves 2 and 3. This severely limits the amount of people receiving indirect exposure to the ads, and suggests that those seeing the ads generally didn't feel the need to talk about them further, a process that in itself facilitates recognition.

However, this is not a surprising finding, given that the call to submit self-generated ads did not emphasize that the ads should implore people to talk about these ads further. Furthermore, judges did not use a criteria of interpersonal communication to select winning ads. We recommend that future ads make a greater attempt to facilitate interpersonal conversation. Research suggests<sup>11</sup> that media campaigns that emphasize the need to talk to one's parents or peers about campaign content are better at stimulating interpersonal conversation than those that do not. Stimulating such talk generally has a positive impact on campaign diffusion, and by extension attitude and intention change. Thus, future ads should highlight the importance of talk.

## **EQ 5: What are differences between tobacco users, committed tobacco non-users, and “on the fence” tobacco non-users on key outcomes? How did these groups change over time?**

**Summary.** Results indicate differences on key outcome variables among tobacco users, on the fence non-users, and committed non-users. Results showed that there were differences among these three groups at Wave 3 on attitudinal beliefs, ad exposure, and norms. Specifically, on the fence non-users, a key target group, showed differences in which beliefs inform intention to smoke in comparison to committed non-users. On the fence non-users also showed higher levels of ad exposure, and more pro-tobacco norms. We recommend that future campaigns continue to differentiate among these groups. Doing so allows a more nuanced analysis of key target groups that is not possible by only dividing groups into users and non-users.

In past evaluations, PDA has examined how key outcomes differ based on smoking or tobacco use status (user vs. non-user). Because the media campaign is prevention-focused, understanding the impact of the ads on non-users is critical. However, our evaluation uncovered some unanticipated outcomes that the campaign may have actually been more effective among tobacco users. This was a surprising but valuable insight about a success of the campaign.

However, describing outcomes by users and non-users, while useful, may not be telling the whole story, and an important indicator to consider is attitudes towards tobacco. Within the overall category of “non-user” there are likely to be significant differences in how positively or

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<sup>11</sup> Hornik, R., Maklan, D., Cadell, D., Judkins, D., Sayeed, S., Zador, P., et al. (2000). *Evaluation of the National Youth Anti-Drug Media Campaign: Campaign exposure and baseline measurement of correlates of illicit drug use from November 1999 through May 2000*. Bethesda, MD: National Institute on Drug Abuse.

negatively non-users view tobacco use. For example, some non-users are likely to view tobacco very negatively, while others may have more pro-tobacco views. We hypothesize that these attitudes towards tobacco may be critical if or when some non-users transition to become users. Perhaps those with the most pro-tobacco attitudes are most likely to move to use tobacco, or perhaps a decision to use tobacco triggers attitudes to change. Either way, we hypothesize that non-users who have some pro-tobacco attitudes similar to tobacco users are likely a vulnerable group. These people may be likely to soon initiate tobacco use, and thus are most in need of tobacco prevention messages.

To investigate our hypotheses about stable versus vulnerable groups of non-users based on their attitudes about tobacco, we created two separate groups. The first group we are calling “on the fence” non-users. These are people who aren’t yet using, but have pro-tobacco attitudes that are similar to users, which may suggest that they may soon become users. The second group we labeled as “committed” non-users. These are non-users who have highly anti-tobacco attitudes that are very different from users, which may suggest that they are unlikely to transition to tobacco users anytime soon.

While “committed” non-users, those possessing strong anti-tobacco attitudes, appear unlikely to become users, on the fence non-users are much more susceptible. This may be particularly true among younger people. Thus, in this section, we will assess differences between users, on the fence non-users, and committed non-users on key outcomes. This analysis will better assess whether the campaign is reaching on the fence non-users; a key, though underexplored, demographic.

To create the two non-user groups, we used the six-item attitudes scale presented earlier in the report. We divided non-users into either the on the fence or committed group by calculating the number of pro and anti-tobacco responses on each of the six attitude scale items, and comparing those responses to the responses of tobacco users. At Wave 3, there were a total of 45 tobacco users, and 107 non-users. About 13% of non-users (14 of 107) had attitudes similar to the attitudes of users, and were classified as on the fence non-users. Table 15 below shows that on the fence non-users had a mean attitude score of 2.93, just slightly above users (2.83). The remaining 87% of users (93 of 107) were classified as committed non-users as their mean attitude score was much higher than users (4.16 vs. 2.83).

**Table 15. Mean attitude score by three tobacco use groups**

	<b>N</b>	<b>Mean Score on 6-item Attitude Scale ( )</b>
Tobacco Users	45	2.83
On the fence non-users	14	2.93
Committed non-users	93	4.16

\* Scale ranges from 1 to 5, higher score indicates greater anti-tobacco attitudes

Next, this section assesses differences between the three groups (users, on the fence non-users, and committed non-users) on key outcomes at Wave 3<sup>12</sup>. After that, this section will assess differences in key outcomes between the three groups over time.

### **Wave 3**

Five outcomes are examined below by usage group. The outcomes include the relationship between beliefs and intentions, ad exposure, norms, issue importance, and interpersonal communication. For some outcomes, a difference by usage group may be expected to indicate a positive or negative result for the intervention. For other outcomes, a difference would only indicate the importance of examining outcomes by usage groups.

#### **Beliefs and Intention**

Earlier in the report, we assessed the relationship of beliefs to intention to use tobacco, finding that many of the beliefs correlated with intention. The next step in this analysis is to assess how tobacco users, on the fence non-users, and committed non-users differ in the relationship of beliefs to intention to smoke. This is important because certain beliefs may be more related to intention to smoke for some groups versus others. As stated above, we are most interested in on the fence non-users because they represent a group that may be vulnerable to tobacco use. If certain beliefs correlate more strongly to intention to use among on the fence non-users, it suggests that certain ads may have been more effective than others in impacting that group, and also it informs ad content that may be effective to use in the future.

We ran a linear regression model, where three blocks of variables were entered stepwise to determine their impact on intention to smoke. First, all 10 beliefs were entered in the first step of the model, then on the fence non-users and users were entered in the second step of the model, with committed non-users as the reference group. In the third step of the model, we ran interactions between all significant beliefs and each of the three usage groups (significant interactions only listed in the table). Results indicate that there were significant differences between on the fence and committed non-users for two of the beliefs in informing intention. In comparison to committed non-users, on the fence non-users had a stronger relationship between the beliefs “using tobacco would help me relax” ( $B=-1.47$ ,  $p<.01$ ) and “I would have trouble finding a boyfriend/girlfriend” ( $B=-.587$ ,  $p=.016$ ) and intention to use tobacco. Table 16 lists the final model.

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<sup>12</sup> Note that because we used attitude score to create the three usage groups, we cannot assess differences in attitudes for this evaluation question.

**Table 16. Differences in three usage groups on relationship of beliefs to intention**

Final Model: reference group: committed non-users	Variable	B	p
Beliefs	I would have something in common with a group I like	.012	.857
	Using tobacco would help me relax	.216	.008
	It would be a good way to meet people	-.056	.348
	I would smell bad	-.142	.038
	I would damage my lungs	.009	.871
	I would lose my athletic ability	-.340	<.001
	I could die from using tobacco	.037	.460
	I would have trouble finding a boyfriend/girlfriend	.091	.192
	I would spend money and not have enough to buy other things I really want	-.097	.188
	Even if I use just a little tobacco now, I would probably not be able to quit later	.195	.020
Usage group	On the fence non-users	.458	.042
	Users	1.53	<.001
Interactions	Using tobacco would help me relax (committed vs on the fence)	-1.47	<.001*
	I would have trouble finding a girlfriend/boyfriend (committed vs on the fence)	-.587	.016 <sup>#</sup>

\* Committed non-users vs on the fence non-users: (B=-1.47, p<.01)

<sup>#</sup> Committed non-users vs on the fence non-users: (B=-.587, p=.016)

The first significant belief “using tobacco would help me relax,” suggests that stress-relief may be playing a significant role in on the fence non-users’ potential transition to becoming users. This is an important finding, as it suggests that future ad content should emphasize this theme. If on the fence non-users believe that tobacco will help them relax, an ad that attempts to negate this idea would likely be highly relevant to on the fence non-users, and positively changing this belief would likely have a corresponding positive impact on intention to use.

The second significant belief in the model “I would have trouble finding a boyfriend/girlfriend” had a negative relationship with intention, suggests that committed non-users are more likely to have this belief inform intention than on the fence non-users. In other words, committed non-



users more strongly believe that using tobacco would cause them to have trouble finding a boyfriend/girlfriend than on the fence non-users. This theme is featured in the ad “On Top of Old Smokey”. These results suggest that committed non-users may be responding better to it than on the fence non-users. Another potential explanation is that differences in the social norms of on the fence and committed non-users account for the difference in the belief-intention relationship. On the fence non-users may exist in social networks more accepting of tobacco use. These social networks may play a role in both informing their pro-tobacco attitudes, and being less likely to believe they’d have trouble finding a girlfriend or boyfriend if they used tobacco. Differences in the normative makeup of on the fence and committed non-users will be further explored later in the report.

## Ad Exposure

Another variable of interest as it relates to tobacco groups is ad exposure. Given that on the fence non-users are arguably more important to target than committed non-users, it is important to assess differences between these groups on ad exposure. We hope that on the fence users would demonstrate more exposure to the ads. This may occur if the ads were more relevant to them, so their attention to the ads was greater.

Chi-square tests reveal that slogan awareness at Wave 3 differed significantly between the three usage groups, and the percentages below show that both tobacco users and on the fence non-users did have higher levels of slogan awareness than committed non-users (see Table 17). Among respondents, 64% of users and 56% of on the fence non-users demonstrated slogan awareness, as compared to 41% of committed non-users. Given that neither the slogan nor the ad buys were specifically planned to target any one of the usage groups, this finding is an unanticipated positive outcome for the campaign as a whole.

Although results trended toward significance for each of the three individual ads, confirmed ad awareness did not reach significance and awareness was similar between the three groups. If the creative content of the ads and/or the ad buys were indeed targeted to a specific usage group, we would expect a difference in ad awareness between committed non-users and on the fence non-users. Given that the creative content and ad buys were not tailored, it is not surprising that no difference was found. However, it does indicate that the ads individually do not differentially target on the fence non-users or users as an unanticipated outcome.

**Table 17. Rates of slogan and ad awareness at Wave 3 by usage group (users, on the fence non-users, and committed non-users)**

Group	Slogan Awareness <sup>1</sup>	Ad Awareness “Smokey” <sup>2</sup>	Ad Awareness “Knowing More” <sup>2</sup>	Ad Awareness “Is it Really Worth It” <sup>2</sup>
Users	64%	18%	14%	20%
On the fence	56%	29%	7%	30%
Committed	41%	13%	10%	25%

<sup>1</sup>Slogan awareness: ( $\chi^2$  (2, n=148)=5.53 p<.05)

<sup>2</sup>NS

Nevertheless, users and on the fence non-users having higher levels of slogan awareness is an unanticipated positive finding for the campaign. This finding suggests that the campaign is reaching the most important audiences with campaign messages at the broadest levels, although the trend is not borne out when examining specific ads.

## Norms

We ran a one-way ANOVA to assess differences between the three groups on norms. Note that the norms scale ranges from 1 to 20, with higher scores indicating more pro-tobacco norms (see Table 18). Results reveal significant differences between the three groups. Post-hoc tests revealed that all three groups had significant differences between them. In other words, for all three groups, mean norms score for one group was significantly different from each of the other two groups. Specifically, users expressed significantly higher pro-tobacco norms than both on the fence and committed non-users (7.72 vs. 6.31 and 5.33, respectively). Likewise, on the fence non-users had significantly more pro-tobacco norms than committed non-users (6.31 vs. 5.33).

**Table 18. Mean norm scores for tobacco users, on the fence non-users, and committed non-users**

Usage Group	N	Mean norms score (20 point scale, higher score indicates pro-tobacco norms)
Users	45	7.72
On the fence	14	6.31
Committed	93	5.33

$F(2, 149)=8.53, p<.01$

\* Post hoc: Users vs. On the fence: LSD ( $p<.01$ )

\* Post hoc: Users vs. Committed: LSD ( $p<.01$ )

\* Post hoc: On the fence vs. Committed: LSD ( $p<.05$ )

This is not a surprising finding, given that tobacco users are likely to associate with other users. However, the fact that on the fence non-users have significantly more pro-tobacco norms than committed non users may help explain why on the fence non-users have more favorable attitudes about using tobacco, as reported earlier. This finding again suggests the relevance of assessing on the fence and committed non-users as two distinct groups, and suggests that the CT DPH may benefit from investigating how ad content and buys should be tailored to this group.

## Issue Importance

We ran a one-way ANOVA to assess differences between the three usage groups (users, committed non-users, on the fence non-users) on issue importance. Results revealed that all three groups were similar on issue importance. The fact that there were no differences between groups is somewhat surprising. We hypothesized that users would have lower issue importance than non-users. It may be the case that because the dangers of tobacco use are now so well known by both users and non-users in the United States, issue importance is no longer impacted by usage group. This deserves further exploration in future surveys.

## Interpersonal Communication

As mentioned previously, interpersonal communication about ads is another key outcome variable in assessing campaign impact. Chi-square tests revealed that all three groups were

similar on how frequently they talk about ads and the campaign. This is not surprising, given the low overall levels of interpersonal communication. Ideally, on the fence non-users would have the highest levels of interpersonal communication, as this is the most at-risk group for the campaign, and spreading messages among their networks would be most beneficial for the campaign.

## Differences over Time

We also tested how each of the three usage groups performed over time on key outcomes. Specifically, we examined the following outcomes from Wave 2 to Wave 3: the relationship between beliefs and intention, ad exposure, norms, issue importance, and interpersonal communication. Because slogan awareness was measured at Waves 1, 2 and 3, this outcome was assessed for change over all three waves. Given that media buys increased substantially, any change in outcomes in a desirable direction from Wave 2 to Wave 3 would indicate a potential success for the campaign. Because outcomes may be influenced by multiple factors, a lack of change could indicate room for improvement in ad effectiveness, as well as the impact of other factors not assessed in this study.

## Norms

Results show that most outcomes were similar across time, specifically the relationship between beliefs and intention, ad exposure, issue importance, interpersonal communication, and slogan awareness. However, one variable, norms, saw showed a significant improvement from Wave 2 to Wave 3 (a mean score of 8.36 vs. 7.72, see Table 19). Among on the fence non-users, norms also trended toward significance from Wave 2 to Wave 3 (7.31 vs. 6.31). Please note that higher norms score equates to more pro-tobacco norms, so a lower score over time indicates a decrease in pro-tobacco norms – a success for the campaign. Though it is difficult to conclude that the media campaign definitively caused this change, these results provide preliminary evidence of a positive effect over time. It is important to note, though, that a number of other factors can also impact social norms change, such as tobacco tax increases, increased exposure of tobacco issues in mainstream media, and government reforms.

**Table 19. Change in mean norms score from Wave 2 to Wave 3 by usage group.**

	Mean Norms Score <sup>1</sup>	
	Wave 2	Wave 3
Users	8.36	7.72 <sup>2</sup>
On the fence non-users	7.31	6.31 <sup>3</sup>
Committed non-users	5.43	5.33

<sup>1</sup> A decrease in norm score equates to fewer pro-tobacco norms and more anti-tobacco norms

<sup>2</sup>  $t(49)=2.54, p<.05$

<sup>3</sup>  $t(10)=1.75, p=.10$

Furthermore, using a general linear model, we compared movement in mean norms score from Wave 2 to Wave 3. As described above, all three groups increased their anti-tobacco norms from Wave 2 to Wave 3. However, users had significantly greater increase as compared to committed

non-users (.64 vs. .10, see Table 20). Likewise, on the fence non-users had a significantly greater increase than did committed non-users (-1.00 vs. -.10).

**Table 20. Change in mean norms score from Wave 2 to Wave 3 by usage group**

	Change in mean norms score
Users	-.64
On the fence non-users	-1.00
Committed non-users	-.10

Users vs. committed non-users:  $F(1,149)=4.50, p<.05$

On the fence vs. committed non-users:  $F(1, 64)=4.19, p<.05$

These findings suggest that the social norms of users and on the fence non-users changed over the course of the campaign in the desired direction. This finding indicates a potential success of the campaign. However, it is important to interpret the finding with caution, because many factors such as other tobacco campaigns, taxes and legislation, and frequency of tobacco-related issues in the news may have also contributed to the differences that were observed.

In sum, EQ 5 suggests that there are differences in a small number of key outcomes based on whether one is a tobacco user, on the fence non-user, or committed non-user. Furthermore, we see that over time, norms changed in a significantly positive direction for users and on the fence non-users, but not for committed non-users. These results demonstrate the fruitfulness of looking at non-users not as one group, but rather as two separate groups. Future campaigns should acknowledge the need to specifically target non-users who may be in danger of becoming users. In looking at what beliefs are relevant to them, future campaigns will be able to design campaign content that will be important to that group. Two beliefs that may warrant consideration include “using tobacco would help me relax” and “I would have trouble finding a girlfriend/boyfriend.” Targeting messages may yield significant benefits in moving on the fence non-users closer to committed non-users (and farther away from users) on attitudes and intention about tobacco, and thus decrease the amount of young people initiating tobacco use.

## **EQ 6: To what extent does exposure to the campaign impact changes in key outcomes over time?**

**Summary.** Exposure to the campaign over time significantly impacted attitudes about smoking. Participants who were exposed to campaign messages had significantly stronger anti-tobacco attitudes than those not exposed. Norms, intention to use tobacco, and issue importance were not significantly impacted by exposure, which should be seen as a negative finding for the campaign. Nevertheless, the fact that attitudes changed in a positive direction based on exposure is an extremely positive finding for the campaign.

This evaluation question assesses the extent to which participants were impacted by the campaign over time, based on exposure to the campaign. While EQ 5 assessed change based on usage group, but did not specifically look at differences based on exposure, the present

evaluation question specifically looks at differences in key outcomes among participants exposed to the campaign versus those not exposed. This is a critical evaluation question, in that it assesses the degree to which key outcomes were changed over time due to exposure to campaign content. We used general linear modeling to assess differences in attitudes, norms, intention and issue importance between those exposed to the campaign (measured by slogan awareness) to those not exposed. To do this, we compared the two exposure groups' mean scores at Wave 1 to their mean score at Wave 3 for each outcome variable. We also ran this for individual ad exposure items, but none of those results were significant, likely due to very low ad awareness at Wave 2. As such, results will be reported for slogan awareness in detail.

## Attitudes

Results of the general linear model indicate that those exposed to the campaign had a significantly more positive change in attitudes compared to those not exposed. Among those without slogan awareness, mean attitudes dropped by .19 on the 6 item attitude scale from Wave 1 to Wave 3. Among those reporting campaign exposure at some point during the campaign, mean attitudes rose by .10 (see Table 21).

**Table 21. Change in mean attitude score from Wave 1 to Wave 3 by slogan awareness**

	Mean Score <sup>1</sup>		
	Wave 1	Wave 3	Change
No slogan awareness	3.67	3.48	-.19
Slogan awareness	3.39	3.49	+.10

<sup>1</sup> A higher mean score indicates more anti-tobacco attitudes

<sup>2</sup>F(1, 153)=4.12, p<.05

This is a very positive finding for the campaign. Participants who reported slogan awareness at some point across the three waves had a positive increase in attitudes, while those without slogan awareness actually had their attitudes drop over time. Thus, while the increase among those with slogan awareness is modest, the data suggests that had they not been exposed to the campaign, a drop in attitudes would likely have occurred. It appears that the campaign did have a favorable impact on tobacco attitudes.

## Norms

Results of the general linear model suggest norms are not significant. Norms were similar among those with slogan awareness versus those without. In the previous section, we saw that norms did change favorably from Wave 2 to Wave 3. This result suggests that we cannot attribute the change in means to the campaign, as those with and without slogan awareness did not show a significant difference in change over time. This is not a surprising finding, however. Social norms typically change due to a number of different factors. It is unlikely that they would change based solely on exposure to one tobacco prevention campaign. Thus, this finding should not be taken as a strongly negative finding for the campaign.

## Intention to Use Tobacco

Results suggest that intention was similar regardless of exposure to the campaign. Participants who reported slogan awareness had similar levels of intention to use tobacco as compared to those without slogan awareness. However, given the positive findings related to beliefs and attitudes, and their important relationship to intention, it is likely that as attitudes and beliefs continue to change in a positive direction, a corresponding positive impact on intention is likely.

## Issue Importance

Issue importance also was similar regardless of exposure to the media campaign. Participants who reported slogan awareness did not rate tobacco as being a more important issue than those without slogan awareness.

Overall, these results suggest that the campaign significantly changed the attitudes of those exposed to the campaign. Importantly, in using a general linear model to differentiate between those exposed and those not exposed, we're able to isolate the effects of the campaign on attitudes. This result, perhaps more than any other, suggests that exposure to the campaign had a tangible and significant impact on young people in Connecticut.

## EQ 7: What types of tobacco products are participants using most frequently?

**Summary.** E-cigarettes are being used at significantly higher rates than most traditional tobacco products, despite only being on the market for a short time. We recommend that future tobacco prevention efforts continue to monitor the use of e-cigarettes, and if trends continue in the same direction, highlight the dangers of e-cigarettes in future campaigns.

For the final evaluation question, we assessed the frequency of use of a number of different types of tobacco products. Assessing the types of tobacco used most frequently can help inform future ad content, particularly for new and emerging tobacco products (e.g. snus, e-cigarettes). For example, finding that participants were using e-cigarettes at a high rate would suggest that future ads may benefit from highlighting the dangers of this type of tobacco use.

Table 22 lists the number and proportion of participants who use each type of tobacco product. Not surprisingly, cigarettes are used most frequently (23%), followed by cigars, cigarillos, or little cigars (14%). Interestingly, e-cigarettes were used next most frequently (6%), despite being a relatively new product. This finding suggests that e-cigarettes should be monitored in future surveys for increases in use, and potentially highlighted in future advertisements if trends suggest that use increases.

**Table 22. Proportion of respondents at Wave 3 using different tobacco products**

	<b>N (Total = 152)</b>	<b>Percent</b>
Cigarettes	35	22.8%
Cigars, cigarillos, or little cigars	20	13.5%
E-cigarettes	10	6.4%
Pipe	5	3.4%
Chewing tobacco, snuff or dip	3	2/2%
Tobacco pouches or snus	1	.5%

We defined new or alternative tobacco products as tobacco pouches or snus and e-cigarettes. A total of 10 participants used these new or alternative products (6%). All 10 of the participants reported to using e-cigarettes, with one of those 10 also reporting use of tobacco pouches or snus.

We performed cross-tabs to check for differences in ad awareness, norms and attitudes for new or alternative products compared to traditional tobacco products. None of these were significant, due to small sample sizes.

In sum, we recommend that future surveys monitor the use of e-cigarettes. Given its relatively high usage rates, even compared to many traditional tobacco products that have been around for a much longer time, it is worth monitoring future use. Should future surveys find usage rates continuing to increase, it may be necessary to incorporate e-cigarettes into future ad content.

## Recommendations

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Given that Wave 3 was the final wave of the current campaign, our recommendations will be in the context of future youth prevention campaigns in Connecticut.

### **Reach and Frequency**

In our reported dated December 28, 2010, we noted that ad awareness was very low, likely due to low GRP levels. As such, we were unable to observe changes in key outcomes based by awareness. At Wave 3, GRP levels were much higher, and we saw many observable and positive changes on key outcomes. For future campaigns, we recommend that GRP levels meet or exceed CDC recommended levels. We see in the present report the importance of adequate GRP levels and their impact on key outcomes. It is critical that, as funding allows, every effort is made to reach recommended levels.

### **Targeting Non-users**

One of the biggest strengths of the present report is its assessment of on the fence and committed non-users. Although only 14 of the 107 non-users fell into the on the fence group, they arguably carry more weight than the 93 committed non-users. These are young people who, for whatever reason, have attitudes about tobacco that are very much in line with users. This suggests that they may be on the brink of initiating tobacco use. Targeting this group with campaign messages is likely to be much more worthwhile than targeting committed non-users who have no intention of using tobacco in the near future. Although it may seem counter-intuitive to design messages aimed at such a small group, the impact is likely to be much greater. While content aimed at committed non-users is by and large “preaching to the choir”, content aimed at on the fence non-users is much more likely to change attitudes. Thus, by examining the relevant attitudinal beliefs of this group, campaign organizers can design ad content that will be relevant and informative to on the fence non users.

Importantly, in future campaigns this should be done *before* ads are run. In conducting a survey in which attitudes and beliefs are assessed among the target audience, campaign organizers will be able to discern how advertising messages should be crafted.

### **Stimulating Interpersonal Communication**

As discussed previously in the report, stimulating interpersonal communication about ads is a worthwhile endeavor. If an advertising campaign can get people talking, the amount of people indirectly exposed to it increases exponentially. As Malcolm Gladwell and others have suggested, the phenomenon is not unlike the spread of a virus across a population. At some point, it reaches a “tipping point” where exposure levels increase exponentially among a population.

Stimulating interpersonal communication in a tobacco prevention campaign is easier said than done, of course. However, content that is highly arousing has been shown to be successful in



stimulating interpersonal communication<sup>13</sup>. Elements of high arousal include features like unexpected plot twists, intense emotional appeals, and highly energetic music. One of the original aims of the Wave 3 evaluation was to assess the relationship between ad arousal and interpersonal communication about the three campaign ads. However, given the low levels of interpersonal communication, such an analysis was not feasible.

Nevertheless, coding ads for arousal in future campaigns would likely result in an increase in interpersonal communication. This may be particularly true of ads that specifically urge viewers to talk to others about tobacco-related issues. In Appendix 2 is a protocol for coding ads for arousal. This protocol is based on literature on message sensation value<sup>14</sup> that has been used to code for arousal in previous research.<sup>15</sup> It is our recommendation that future campaigns use this approach in hopes of better stimulating interpersonal communication.

### **New and Alternative Tobacco Use**

Given the relatively high number of participants that reported using E-cigarettes, it is worthwhile to continue to monitor levels of use. E-cigarettes were first developed in 2003, and have only been on the market a few years. Given their perception as being less harmful than other types of tobacco, it may be likely that use continues to grow in the coming years. Should future surveys find that this is the case, it may become necessary to develop advertising content that specifically focuses on the health consequences of repeated E-cigarette use.

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<sup>13</sup> Terry-McElrath Y, Wakefield M, Ruel E, et al. (2005) The effect of anti-smoking advertisement executional characteristics on youth appraisal and engagement. *Journal of Health Communication*, 10, 127-143.

<sup>14</sup> Everett, M. W., & Palmgreen, P. (1995). Influences of sensation seeking, message sensation value, and program context on effectiveness of anti-cocaine public service announcements. *Health Communication*, 7, 225–248.

<sup>15</sup> Weeks, Depue and Yzer. The Role of Affect and Perceived Message Effectiveness in Understanding Message Effects on Attitudes and Intentions Toward Marijuana Use. *Presented at the 2010 International Communication Association Annual Conference*.

## General Conclusions

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Overall, the campaign should be seen as a success. Using limited funds, the campaign developed user-generated content that, over time, had a tangible effect on several key outcomes. As we saw in Wave 2, the importance of reaching adequate GRP levels cannot be overstated. Given the limited results at Wave 2 and some significant results at Wave 3, it appears that the issue at Wave 2 was not problematic ad content, but a lack of the audience's exposure to the campaign. As exposure increased at Wave 3, so too did participants anti-tobacco attitudes and favorable intentions regarding tobacco use.

In sum, the campaign should be seen as having a positive impact on changing the overall climate regarding tobacco use among young people in Connecticut. It is important that CT DPH continue to build on that momentum and implement another tobacco prevention campaign as soon as possible. Through an in-depth, theory based assessment of the data and recommendations based on that analysis, it is our hope that future campaigns can implement many of the ideas proposed here in the hope of continuing to curtail tobacco use among young people in Connecticut.

# Appendix 1. Survey

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## Connecticut Tobacco

### INTRO SCREEN

Hi, I'm \_\_\_\_\_, calling for the Connecticut Department of Public Health. We're calling cell phone users to learn about their attitudes about health. In April, and again in October, you agreed to participate, and we interviewed you. We are now conducting another interview with everyone who was interviewed the first two times. Your responses will be used to help all Connecticut residents live healthier lives. When this interview is completed, I will send you \$50 as a thank you for your time.

### QUESTIONNAIRE

Q.1 Will you agree to participate and let me ask you the questions right now?

(500)

- <sub>1</sub> Yes
- <sub>2</sub> No (not now)
- <sub>3</sub> No (Refused)

[IF THE ANSWER IS 2, THEN SKIP TO QUESTION 105]  
[IF THE ANSWER IS 3, THEN SKIP TO QUESTION 108]

Q.2 The questions we ask are based on age. Are you between the age of 18 and 24?

(501-502)

- <sub>01</sub> Yes
- <sub>02</sub> No

[IF THE ANSWER IS 1, THEN SKIP TO QUESTION 4]

Q.3 Were you between the age of 18 and 24 when we last interviewed you?

(503)

- <sub>1</sub> Yes
- <sub>2</sub> No

[IF THE ANSWER IS 2, THEN SKIP TO QUESTION 106]

Q.4 Do you live in CT at least 6 months of the year?

(504)

- <sub>1</sub> Yes
- <sub>2</sub> No
- <sub>3</sub> Don't know
- <sub>4</sub> Refused

[IF THE ANSWER IS 2-4, THEN SKIP TO QUESTION 107]

Q.5 Have you lived in any other states since we last interviewed you?

(505)

- <sub>1</sub> Yes
- <sub>2</sub> No
- <sub>3</sub> Don't know
- <sub>4</sub> Refused

Q.6 You qualify for this interview, which is completely voluntary. You don't need to answer any question you don't want to, and you can end this interview at any time. The interview generally takes about 15 minutes, depending on your answers. Any information you give will be kept confidential to the fullest extent of the law.

Q.7 How much TV do you watch on an average weekday? READ 1-7

(506)

- <sub>1</sub> None
- <sub>2</sub> Less than one hour
- <sub>3</sub> About 1 hour
- <sub>4</sub> About 2 hours
- <sub>5</sub> About 3 hours
- <sub>6</sub> About 4 hours, or
- <sub>7</sub> Five hours or more
- <sub>8</sub> DON'T KNOW/REFUSED [DO NOT READ; ONLY RECORD IF VOLUNTEERED]

Q.8 How much TV do you watch on an average weekend day (meaning Saturday or Sunday)?  
READ 1-7

(507)

- <sub>1</sub> None
- <sub>2</sub> Less than one hour
- <sub>3</sub> About 1 hour
- <sub>4</sub> About 2 hours
- <sub>5</sub> About 3 hours
- <sub>6</sub> About 4 hours, or
- <sub>7</sub> Five hours or more
- <sub>8</sub> DON'T KNOW/REFUSED [DO NOT READ; ONLY RECORD IF VOLUNTEERED]

Q.9 In the past three months, about how often did you talk with other people about what you read or heard on TV? [READ]

(508)

- <sub>1</sub> Not at all
- <sub>2</sub> Once or twice
- <sub>3</sub> At least once a week
- <sub>4</sub> Several times a week
- <sub>5</sub> At least daily
- <sub>6</sub> DON'T KNOW/REFUSED [DO NOT READ]

Q.10 I'm going to read five issues that may or may not be a concern for you and your friends.

After I read them, please tell me:

Which issue concerns you and your friends the most:

Which issue is the second most concern to you:

Which issue you have the least concern about:

**\*Interviewers use the following codes:**

- 1 = Ranked as having the most concern
- 2 = Ranked as having the second most concern
- 5 = Ranked as having the least concern
- 6 = DON'T KNOW [DO NOT READ]
- 7 = REFUSED [DO NOT READ]
- 9 = Unranked

The issues are...

[READ ANSWERS IN RANDOM ORDER]

- Tobacco Use ..... \_\_ (509)
- Alcohol Use ..... \_\_ (510)
- Getting enough exercise ..... \_\_ (511)
- Eating fruits and vegetables ..... \_\_ (512)
- Eating organic food ..... \_\_ (513)

Q.11 For the issue of tobacco use, how concerning would you say this issue is for you and your friends?

(514)

- <sub>1</sub> Very concerning
- <sub>2</sub> Somewhat concerning
- <sub>3</sub> Neither concerning or unconcerning
- <sub>4</sub> Somewhat unconcerning
- <sub>5</sub> Very unconcerning

Q.12 I'm going to read five issues that may or may not be a concern for your family. After I read them, please tell me:

Which issue concerns your family the most:

Which issue is the second most concern to your family:

Which issue your family have the least concern about:

**\*Interviewers use the following codes:**

- 1 = Ranked as having the most concern
- 2 = Ranked as having the second most concern

- 5 = Ranked as having the least concern
- 6 = DON'T KNOW [DO NOT READ]
- 7 = REFUSED [DO NOT READ]
- 9 = Unranked

The issues are...

[READ ANSWERS IN RANDOM ORDER]

- Tobacco Use ..... \_\_ (515)
- Alcohol Use ..... \_\_ (516)
- Getting enough exercise ..... \_\_ (517)
- Eating fruits and vegetables ..... \_\_ (518)
- Eating organic food ..... \_\_ (519)

Q.13 For the issue of tobacco use, how concerning would you say this issue is for your family?  
(520)

- <sub>1</sub> Very concerning
- <sub>2</sub> Somewhat concerning
- <sub>3</sub> Neither concerning nor un concerning
- <sub>4</sub> Somewhat un concerning
- <sub>5</sub> Very un concerning

Q.14 Have you used any of the following types of tobacco in the last 30 days?

- 1= Yes
- 2 = No
- 3 = Don't know
- 4 = Refused

- Cigarettes ..... \_\_ (
- Chewing tobacco, snuff, or dip ..... \_\_ (
- Cigars, cigarillos, or little cigars like Black and Milds ..... \_\_ (
- A pipe [NOTE: DO NOT READ:(this is a traditional pipe; for water pipe or hookah,  
indicate other tobacco type below)] ..... \_\_ (
- Tobacco pouches or snus.....\_(525)
- Dissolvable tobacco products such as orbs, sticks or strips.....\_(526)
- E-Cigarettes.....\_(527)
- Any other type of tobacco ..... \_\_ (

[IF THE ANSWER TO SUB-QUESTION 8 OF QUESTION 14 IS 2-4, THEN SKIP TO QUESTION 16]

Q.15 What other type of tobacco?  
\_\_\_\_\_ (526-775)

Q.16 Would you say you use tobacco:  
(776)

- <sub>1</sub> Every day
- <sub>2</sub> Some days
- <sub>3</sub> Not at all

Q.17 How likely is it that you will use tobacco, even one puff or pinch, over the next 12 months?

(777)

- <sub>1</sub> I am very unlikely to do so
- <sub>2</sub> I am unlikely to do so
- <sub>3</sub> I am likely to do so
- <sub>4</sub> I am very likely to do so
- <sub>5</sub> DON'T KNOW [DO NOT READ]
- <sub>6</sub> REFUSED [DO NOT READ]

Q.18. How likely is that you will quit using tobacco over the next 12 months?

- <sub>1</sub> I am very unlikely to do so
- <sub>2</sub> I am unlikely to do so
- <sub>3</sub> I am likely to do so
- <sub>4</sub> I am very likely to do so
- <sub>5</sub> DON'T KNOW [DO NOT READ]
- <sub>6</sub> REFUSED [DO NOT READ]

Q.19 You may or may not have seen advertisements in recent months that mentioned tobacco. In your own words, would you please summarize what you remember, if anything, about any of those advertisements you might have seen? If you don't remember seeing any, just say that. If you did, you can mention anything you would like about what you remember:

\_\_\_\_\_ (778-1277)

Q.20 Have you recently seen an anti-tobacco or anti-smoking TV ad that begins by showing a woman shopping in a grocery store with a smokestack on her head?

(1278)

- <sub>1</sub> Yes
- <sub>2</sub> Maybe/not sure
- <sub>3</sub> No

[IF THE ANSWER IS 3, THEN SKIP TO QUESTION 37]

Q.21 Can you describe what happens in the advertisement? DO NOT READ

**\* Interviewer: It is VERY important that you check ALL boxes that caller mentions \***

(1279-1340)

<sub>01</sub> Woman wearing a blue sweater with pearls is pushing a shopping cart in a grocery store and has a smokestack on her head

- <sub>02</sub> A girl with dark hair and black sweater is also pushing a grocery shopping cart  
<sub>03</sub> Girl with dark hair is smiling. She sees the woman with a smokestack on her head, does a double take and looks confused  
<sub>04</sub> The girl with dark hair is running outside in a black jacket  
<sub>05</sub> A girl with a tie-dye shirt is running outside with a smokestack on her head  
<sub>06</sub> The girl with dark hair and black jacket looks back, puzzled, at the runner with a smokestack on her head  
<sub>07</sub> The girl in the tie-dye continues running  
<sub>08</sub> The girl with dark hair is wearing a black dress and waiting for a date to arrive at a restaurant  
<sub>09</sub> A male date arrives and the girl with dark hair gives a great smile and shakes his hand. It might be a first date  
<sub>10</sub> We see that the date has brown hair, a black shirt, and a smokestack on his head  
<sub>11</sub> Girl with dark hair looks unimpressed by her date's smoke stack  
<sub>12</sub> VO: If we were meant to smoke, we'd be born with chimneys in our head  
<sub>13</sub> VO: Smoking, it's a waste  
<sub>14</sub> The girl smiles to her dates face, but looks at her menu in disgust when he's not looking  
<sub>15</sub> Don't know, no answer  
<sub>16</sub> Other

Q.22

\_\_\_\_\_ (1341-1590)

[IF THE ANSWER TO QUESTION 20 IS 1-3, THEN SKIP TO QUESTION 25]

Q.23 [ANSWER IS CALCULATED FROM PREVIOUS QUESTION]

Was the advertisement:

(1591)

- <sub>1</sub> Confirmed [Respondent volunteered some portion of description]  
<sub>2</sub> Don't know/no answer  
<sub>3</sub> Unconfirmed [Respondent provided an unrelated answer]

Q.24

\_\_\_\_\_ (1592-1841)

Q.25 What was the main message or theme of this advertisement? DO NOT READ

(1842)

- <sub>1</sub> Smoking, is a waste  
<sub>2</sub> if we were meant to smoke we'd be born with chimneys on our head  
<sub>3</sub> Smoking makes you look just as silly as wearing a chimney on your head

would



- 4 Others may form negative opinions about you if you smoke
- 5 Smoke stacks make odd hats
- 6 Don't know/no answer
- 7 Other

Q.26

(1843-2092)

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Q.27 Overall, how good do you think this ad is? READ  
(2093)

- 1 Excellent
- 2 Good
- 3 Fair
- 4 Poor
- 5 Don't know DO NOT READ
- 6 Refused DO NOT READ

Q.28 Did this ad offend you? DO NOT READ  
(2094)

- 1 Yes
- 2 No
- 3 Don't know
- 4 Refused

Q.29 Would you say this ad was: READ  
(2095)

- 1 Very convincing
- 2 Somewhat convincing
- 3 Somewhat unconvincing
- 4 Very unconvincing
- 5 Don't know DO NOT READ
- 6 Refused DO NOT READ

Q.30 Would you say this ad was: READ  
(2096)

- 1 Very believable
- 2 Somewhat believable
- 3 Somewhat unbelievable
- 4 Very unbelievable
- 5 Don't know DO NOT READ
- 6 Refused DO NOT READ

Q.31 Would you say that this ad was: READ  
(2097)

- <sub>1</sub> Very memorable
- <sub>2</sub> Somewhat memorable
- <sub>3</sub> Somewhat forgettable
- <sub>4</sub> Very forgettable
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.32 How likely are you to think about this ad when you want to use tobacco or are around someone who uses tobacco? READ

(2098)

- <sub>1</sub> Very likely
- <sub>2</sub> Somewhat likely
- <sub>3</sub> Somewhat unlikely
- <sub>4</sub> Very unlikely
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.33 How much did you talk to friends or relatives about this ad? READ

(2099)

- <sub>1</sub> A great deal
- <sub>2</sub> Some
- <sub>3</sub> Hardly at all
- <sub>4</sub> Not at all
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

[IF THE ANSWER IS 4-6, THEN SKIP TO QUESTION 35]

Q.34 Did you talk about liking the ad or disliking the ad? DO NOT READ

(2100)

- <sub>1</sub> Yes, I talked with someone about liking the ad
- <sub>2</sub> Yes, I talked with someone about disliking the ad
- <sub>3</sub> Yes, I talked both about liking the ad and about disliking the ad
- <sub>4</sub> No, neither. I talked with someone about something different about the ad.

Q.35 Did you learn something new from this ad? DO NOT READ

(2101)

- <sub>1</sub> Yes
- <sub>2</sub> No
- <sub>3</sub> Don't know
- <sub>4</sub> Refused

Q.36 Did this ad make you feel:

(2096)

- <sub>1</sub> Very bored
- <sub>2</sub> Somewhat bored
- <sub>3</sub> Somewhat 'stirred-up'
- <sub>4</sub> Very 'stirred-up'
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.37 Have you recently seen an anti-tobacco or anti-smoking TV ad that begins by showing a teen boy wearing glasses saying "What if you knew your friend was going to die?"

(2102)

- <sub>1</sub> Yes
- <sub>2</sub> Maybe/not sure
- <sub>3</sub> No

[IF THE ANSWER IS 3, THEN SKIP TO QUESTION 54]

Q.38 Can you describe what happens in the advertisement? DO NOT READ

**\* Interviewer: It is VERY important that you check ALL boxes that caller mentions \***

(2103-2122)

- <sub>01</sub> An Asian teen boy with glasses says "What if you knew your friend was going to die? What about you?" Words on screen
- <sub>02</sub> A second teen boy with brown hair and a hoodie says "Smoking tobacco kills more people than cocaine, heroin, alcohol"
- <sub>03</sub> The words "Cocaine, heroin, alcohol" appear on the screen
- <sub>04</sub> Cut to the first boy who continues by saying "fire, automobile accidents, homicides" and the words appear on the screen
- <sub>05</sub> A third boy with dark brown hair and a t-shirt continues by saying "suicides and AIDS combined." Words on screen
- <sub>06</sub> The second boy says "430,000 people" and the words appear on the screen
- <sub>07</sub> Cut to the third boy who says "430,000 people every year" and the words appear on the screen
- <sub>08</sub> The first boy says "Whether it's chewing tobacco or smoking it"
- <sub>09</sub> The words "Chewing or Smoking" appear on the screen
- <sub>10</sub> The second boy says "First hand or second hand smoke"
- <sub>11</sub> The words "First hand or Second hand..." appear on the screen
- <sub>12</sub> The third boy says "It can kill you" and the words appear on the screen
- <sub>13</sub> The second boy says "Know the Facts" and the words appear on the screen
- <sub>14</sub> The third boy says "Know the Risk" and the words appear on the screen
- <sub>15</sub> The first boy says "Know enough" and the words appear on the screen
- <sub>16</sub> Don't know/no answer
- <sub>17</sub> Other

Q.39

(2123-2372)

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[IF THE ANSWER TO QUESTION 37 IS 1-3, THEN SKIP TO QUESTION 42]

Q.40 [ANSWER IS CALCULATED FROM PREVIOUS QUESTION]

Was the advertisement:

(2373)

- <sub>1</sub> Confirmed [Respondent volunteered some portion of description]
- <sub>2</sub> Don't know/no answer
- <sub>3</sub> Other [Respondent provided an unrelated answer]

Q.41

(2374-2623)

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Q.42 What was the main message or theme of this advertisement? DO NOT READ

(2624)

- <sub>1</sub> Tobacco can kill you (no matter what form is used)
- <sub>2</sub> Know the facts about tobacco
- <sub>3</sub> Know the risk associated with tobacco
- <sub>4</sub> More people die from smoking than cocaine, heroin, alcohol, fire, car accidents, homicides, suicides, and AIDS combined
- <sub>5</sub> 430,000 people die from tobacco related causes every year
- <sub>6</sub> Don't know/no answer
- <sub>7</sub> Other

Q.43

(2625-2874)

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Q.44 Overall, how good do you think this ad is? READ

(2875)

- <sub>1</sub> Excellent
- <sub>2</sub> Good
- <sub>3</sub> Fair
- <sub>4</sub> Poor
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.45 Did this ad offend you? DO NOT READ

(2876)

- <sub>1</sub> Yes
- <sub>2</sub> No
- <sub>3</sub> Don't know

<sub>4</sub> Refused

Q.46 Would you say this ad was: READ

(2877)

- <sub>1</sub> Very convincing
- <sub>2</sub> Somewhat convincing
- <sub>3</sub> Somewhat unconvincing
- <sub>4</sub> Very unconvincing
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.47 Would you say this ad was: READ

(2878)

- <sub>1</sub> Very believable
- <sub>2</sub> Somewhat believable
- <sub>3</sub> Somewhat unbelievable
- <sub>4</sub> Very unbelievable
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.48 Would you say that this ad was: READ

(2879)

- <sub>1</sub> Very memorable
- <sub>2</sub> Somewhat memorable
- <sub>3</sub> Somewhat forgettable
- <sub>4</sub> Very forgettable
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.49 How likely are you to think about this ad when you want to use tobacco or are around someone who uses tobacco? READ

(2880)

- <sub>1</sub> Very likely
- <sub>2</sub> Somewhat likely
- <sub>3</sub> Somewhat unlikely
- <sub>4</sub> Very unlikely
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.50 How much did you talk to friends or relatives about this ad? READ

(2881)

- <sub>1</sub> A great deal
- <sub>2</sub> Some
- <sub>3</sub> Hardly at all

- <sub>4</sub> Not at all
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

[IF THE ANSWER IS 4-6, THEN SKIP TO QUESTION 52]

Q.51 Did you talk about liking the ad or disliking the ad? DO NOT READ  
(2882)

- <sub>1</sub> Yes, I talked with someone about liking the ad
- <sub>2</sub> Yes, I talked with someone about disliking the ad
- <sub>3</sub> Yes, I talked both about liking the ad and about disliking the ad
- <sub>4</sub> No, neither. I talked with someone about something different about the ad.

Q.52 Did you learn something new from this ad? DO NOT READ  
(2883)

- <sub>1</sub> Yes
- <sub>2</sub> No
- <sub>3</sub> Don't know
- <sub>4</sub> Refused

Q.53 Did this ad make you feel:  
(2096)

- <sub>1</sub> Very bored
- <sub>2</sub> Somewhat bored
- <sub>3</sub> Somewhat 'stirred-up'
- <sub>4</sub> Very 'stirred-up'
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.54 Have you recently seen an anti-tobacco or anti-smoking TV ad that begins by showing a girl with long brown hair in a gray sweatshirt poncho with a string of paperclips holding several pictures and items (picture of her boyfriend, a one dollar bill, a picture of a trophy, a picture of a diseased lung, and a picture of her family) in front of her?

- (2884)
- <sub>1</sub> Yes
  - <sub>2</sub> Maybe/not sure
  - <sub>3</sub> No

[IF THE ANSWER IS 3, THEN SKIP TO QUESTION 71]

Q.55 Can you describe what happens in the advertisement? DO NOT READ

**\* Interviewer: It is VERY important that you check ALL boxes that the caller mentions  
(2885-2904)**

- <sub>01</sub> A girl stands behind a string with 5 items paper clipped to it
- <sub>02</sub> Girl says "I am a smoker. This is my boyfriend, he hated smokers."
- <sub>03</sub> Girl unclips picture of boyfriend and lets it fall to the floor
- <sub>04</sub> Girl says "It got really expensive trying to pay for a habit."
- <sub>05</sub> Girl unclips dollar bill and lets it fall to the floor
- <sub>06</sub> Girl says "I used to be the star of my team."
- <sub>07</sub> Girl unclips picture of the trophy and lets it fall to the floor
- <sub>08</sub> Girl says "I lost all my endurance. My body is slowly deteriorating."
- <sub>09</sub> Girl unclips photo of the diseased lung and lets it fall to the floor
- <sub>10</sub> Girl says "My family lost all respect for me."
- <sub>11</sub> Girl unclips the photo of her family and lets it fall to the floor
- <sub>12</sub> Girl holds out her hands underneath the string
- <sub>13</sub> Girl says "This is what you have when you have an addiction."
- <sub>14</sub> String is left with nothing but paperclips.
- <sub>15</sub> Girl folds hand in front of her
- <sub>16</sub> White writing on a black screen "Is it really worth it? Visit:

www.itsawaste.com"

- <sub>17</sub> Don't know/no answer
- <sub>18</sub> Other

Q.56

(2905-3154)

[IF THE ANSWER TO QUESTION 54 IS 1-3, THEN SKIP TO QUESTION 59]

Q.57 [ANSWER IS CALCULATED FROM PREVIOUS QUESTION]

Was the advertisement:

(3155)

- <sub>1</sub> Confirmed [Respondent volunteered some portion of the description]
- <sub>2</sub> Don't know/no answer
- <sub>3</sub> Other [Respondent provided and unrelated answer]

Q.58

(3156-3405)

Q.59 What was the main message or theme of the advertisement? DO NOT READ

(3406)

- <sub>1</sub> You lose everything when you have an addiction to tobacco
- <sub>2</sub> Is tobacco really worth it [losing everything important]?
- <sub>3</sub> Addiction to tobacco replaces important facets in one's life (boyfriends, family, money, etc.)
- <sub>4</sub> Smoking is expensive
- <sub>5</sub> Smoking costs your health and endurance

- you
- <sub>6</sub> Smoking will cause family, friends, and significant others to lose respect for
  - <sub>7</sub> Don't know/no answer
  - <sub>8</sub> Other

Q.60

(3407-3656)

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Q.61 Overall, how good do you think this ad is? READ  
(3657)

- <sub>1</sub> Excellent
- <sub>2</sub> Good
- <sub>3</sub> Fair
- <sub>4</sub> Poor
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.62 Did this ad offend you? DO NOT READ  
(3658)

- <sub>1</sub> Yes
- <sub>2</sub> No
- <sub>3</sub> Don't know
- <sub>4</sub> Refused

Q.63 Would you say this ad was: READ  
(3659)

- <sub>1</sub> Very convincing
- <sub>2</sub> Somewhat convincing
- <sub>3</sub> Somewhat unconvincing
- <sub>4</sub> Very unconvincing
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.64 Would you say this ad was: READ  
(3660)

- <sub>1</sub> Very believable
- <sub>2</sub> Somewhat believable
- <sub>3</sub> Somewhat unbelievable
- <sub>4</sub> Very unbelievable
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.65 Would you say this ad was: READ  
(3661)



- <sub>1</sub> Very memorable
- <sub>2</sub> Somewhat memorable
- <sub>3</sub> Somewhat forgettable
- <sub>4</sub> Very forgettable
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.66 How likely are you to think about this ad when you want to use tobacco or are around someone who uses tobacco? READ

(3662)

- <sub>1</sub> Very likely
- <sub>2</sub> Somewhat likely
- <sub>3</sub> Somewhat unlikely
- <sub>4</sub> Very unlikely
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.67 How much did you talk to friend or relatives about this ad? READ

(3663)

- <sub>1</sub> A great deal
- <sub>2</sub> Some
- <sub>3</sub> Hardly at all
- <sub>4</sub> Not at all
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

[IF THE ANSWER IS 4-6, THEN SKIP TO QUESTION 69]

Q.68 Did you talk about liking the ad or disliking the ad? DO NOT READ

(3664)

- <sub>1</sub> Yes, I talked with someone about liking the ad
- <sub>2</sub> Yes, I talked with someone about disliking the ad
- <sub>3</sub> Yes, I talked both about liking the ad and disliking the ad
- <sub>4</sub> No, neither. I talked with someone about something different about the ad

Q.69 Did you learn something new from this ad? DO NOT READ

(3665)

- <sub>1</sub> Yes
- <sub>2</sub> No
- <sub>3</sub> Don't know
- <sub>4</sub> Refused

Q.70 Did this ad make you feel:

(2096)

- <sub>1</sub> Very bored
- <sub>2</sub> Somewhat bored
- <sub>3</sub> Somewhat 'stirred-up'
- <sub>4</sub> Very 'stirred-up'
- <sub>5</sub> Don't know DO NOT READ
- <sub>6</sub> Refused DO NOT READ

Q.71 Have you seen or heard any of the following phrases on TV, online, or in other places?

- 1 = Yes
- 2 = No
- 3 = DON'T KNOW [DO NOT READ]
- 4 = REFUSED [DO NOT READ]

[READ ANSWERS IN RANDOM ORDER]

- Tobacco It's a Waste ..... \_\_ (3666)
- Do you have what it takes ..... \_\_ (3667)
- Become an ex ..... \_\_ (3668)
- Too smart for tobacco ..... \_\_ (3669)
- Don't put that in your mouth ..... \_\_ (3670)

Q.72 You might face a variety of obstacles if you wanted to use tobacco, like cost or non-smoking rules. How certain are you that you could use tobacco in the next 12 months if you really wanted to, even in the face of such obstacles? READ

(3671)

- <sub>1</sub> Very certain
- <sub>2</sub> Somewhat certain
- <sub>3</sub> Somewhat uncertain
- <sub>4</sub> Very uncertain
- <sub>5</sub> DON'T KNOW [DO NOT READ]
- <sub>6</sub> REFUSED [DO NOT READ]

Q.73 We would like to know where people get information about using tobacco. Next we are going to ask a series of questions about instances in which you might have seen other people using tobacco or gotten positive or negative information about using tobacco.

In the past three months, about how often did you talk with other people about tobacco?

(3672)

- <sub>1</sub> Not at all
- <sub>2</sub> Once or twice
- <sub>3</sub> At least once a week

- <sub>4</sub> Several times a week
- <sub>5</sub> At least daily
- <sub>6</sub> DON'T KNOW/REFUSED [DO NOT READ]

[IF THE ANSWER IS 1, THEN SKIP TO QUESTION 78]

Q.74 When talking about tobacco, who do you primarily talk to?

(3673)

- <sub>1</sub> Friends
- <sub>2</sub> Family
- <sub>3</sub> Work/school colleagues
- <sub>4</sub> Other
- <sub>5</sub> Don't know/Refused DO NOT READ

Q.75 When you talk about tobacco with people, do you usually: Just listen; take an equal share in the conversation; or mostly tell others your ideas?

(3674)

- <sub>1</sub> Just listen
- <sub>2</sub> Take an equal share in the conversation
- <sub>3</sub> Mostly tell others your ideas

Q.76 When you talk about tobacco with people, is your part of the conversation mostly in favor of tobacco use or against tobacco?

(3675)

- <sub>1</sub> Pro tobacco
- <sub>2</sub> Anti tobacco
- <sub>3</sub> BOTH [DO NOT READ]
- <sub>4</sub> DON'T KNOW [DO NOT READ]
- <sub>5</sub> REFUSED [DO NOT READ]

Q.77 When you talk about tobacco with people, is your part of the conversation mostly about the right to use tobacco, the right to breathe smoke-free air, or neither?

(3676)

- <sub>1</sub> Right to use tobacco
- <sub>2</sub> Right to breathe smoke-free air
- <sub>3</sub> Neither
- <sub>4</sub> BOTH [DO NOT READ]
- <sub>5</sub> DON'T KNOW [DO NOT READ]
- <sub>6</sub> REFUSED [DO NOT READ]

Q.78 In the past three months, how often did you see people using tobacco in any of the following places? READ

1 = Not at all

- 2 = Once or twice
- 3 = At least once a week
- 4 = Several times a week
- 5 = At least daily
- 6 = DON'T KNOW/REFUSED [DO NOT READ]

- On a television show ..... \_\_ (3677)
- In a movie ..... \_\_ (3678)
- On a social networking site like Facebook or MySpace ..... \_\_ (3679)
- Non-social networking sites ..... \_\_ (3680)

Q.79 In the past three months, about how often did you search for information on the Internet about tobacco?

- (3681)
- <sub>1</sub> Not at all
  - <sub>2</sub> Once or twice
  - <sub>3</sub> At least once a week
  - <sub>4</sub> Several times a week
  - <sub>5</sub> At least daily
  - <sub>6</sub> DON'T KNOW/REFUSED [DO NOT READ]

Q.80 How much do you agree that the following would happen to you if you used tobacco at least once a month for the next 12 months? For each statement below would you say you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree?

- 1 = Strongly agree
- 2 = Agree
- 3 = Neither agree nor disagree
- 4 = Disagree
- 5 = Strongly disagree
- 6 = DON'T KNOW (DO NOT READ)
- 7 = REFUSED (DO NOT READ)

[READ ANSWERS IN RANDOM ORDER]

- I would have something in common with a group I like ..... \_\_ (3682)
- I would smell bad ..... \_\_ (3683)
- I would spend money and not have enough to buy other things I really want  
more \_\_\_\_\_ (3684)
- Using tobacco would help me relax ..... \_\_ (3685)
- I would have trouble finding a boyfriend/girlfriend ..... \_\_ (3686)
- I would damage my lungs ..... \_\_ (3687)
- Even if I use just a little tobacco now, I would probably not be able to quit later ..... \_\_ (3688)
- I would lose my athletic ability ..... \_\_ (3689)

It would be a good way to meet people ..... \_\_ (3690)  
I could die from using tobacco ..... \_\_ (3691)

Q.81 Imagine you were to use tobacco, even a puff or pinch, in the next 12 months. Would your tobacco use, even a puff or a pinch, be: READ

(3692)

- <sub>1</sub> Extremely good
- <sub>2</sub> Good
- <sub>3</sub> Neither good nor bad
- <sub>4</sub> Bad
- <sub>5</sub> Extremely bad
- <sub>6</sub> DON'T KNOW [DO NOT READ]
- <sub>7</sub> REFUSED [DO NOT READ]

Q.82 Would your tobacco use, even a puff or a pinch, be:

(3693)

- <sub>1</sub> Extremely enjoyable
- <sub>2</sub> Enjoyable
- <sub>3</sub> Neither enjoyable nor unenjoyable
- <sub>4</sub> Unenjoyable
- <sub>5</sub> Extremely unenjoyable
- <sub>6</sub> DON'T KNOW [DO NOT READ]
- <sub>7</sub> REFUSED [DO NOT READ]

Q.83 Would your tobacco use, even a puff or a pinch, be:

(3694)

- <sub>1</sub> Extremely stressful
- <sub>2</sub> Stressful
- <sub>3</sub> Neither stressful nor relaxing
- <sub>4</sub> Relaxing
- <sub>5</sub> Extremely relaxing
- <sub>6</sub> DON'T KNOW [DO NOT READ]
- <sub>7</sub> REFUSED [DO NOT READ]

Q.84 Imagine you were to use tobacco regularly in the next 12 months. Would your regular tobacco use be:

(3695)

- <sub>1</sub> Extremely Good
- <sub>2</sub> Good
- <sub>3</sub> Neither good nor bad
- <sub>4</sub> Bad
- <sub>5</sub> Extremely bad
- <sub>6</sub> DON'T KNOW [DO NOT READ]
- <sub>7</sub> REFUSED [DO NOT READ]

Q.85 Would your regular tobacco use be:

(3696)

- <sub>1</sub> Extremely enjoyable
- <sub>2</sub> Enjoyable
- <sub>3</sub> Neither enjoyable nor unenjoyable
- <sub>4</sub> Unenjoyable
- <sub>5</sub> Extremely unenjoyable
- <sub>6</sub> DON'T KNOW [DO NOT READ]
- <sub>7</sub> REFUSED [DO NOT READ]

Q.86 Would your regular tobacco use be:

(3697)

- <sub>1</sub> Extremely stressful
- <sub>2</sub> Stressful
- <sub>3</sub> Neither stressful nor relaxing
- <sub>4</sub> Relaxing
- <sub>5</sub> Extremely relaxing
- <sub>6</sub> DON'T KNOW [DO NOT READ]
- <sub>7</sub> REFUSED [DO NOT READ]

Q.87 How do you think most people who are important to you would feel about you using tobacco, even one puff or pinch, during the next 12 months? They would: READ

(3698)

- <sub>1</sub> Strongly disapprove
- <sub>2</sub> Disapprove
- <sub>3</sub> Neither disapprove nor approve
- <sub>4</sub> Approve
- <sub>5</sub> Strongly approve
- <sub>6</sub> DON'T KNOW [DO NOT READ]
- <sub>7</sub> REFUSED [DO NOT READ]

Q.88 How do you think most people who are important to you would feel about you using tobacco regularly during the next 12 months? They would: READ

(3699)

- <sub>1</sub> Strongly disapprove
- <sub>2</sub> Disapprove
- <sub>3</sub> Neither disapprove nor approve
- <sub>4</sub> Approve
- <sub>5</sub> Strongly approve
- <sub>6</sub> DON'T KNOW [DO NOT READ]
- <sub>7</sub> REFUSED [DO NOT READ]

Q.89 About how many of your friends use tobacco? READ

(3700)

- <sub>1</sub> Almost none
- <sub>2</sub> Less than half
- <sub>3</sub> More than half
- <sub>4</sub> Almost all
- <sub>5</sub> DON'T KNOW [DO NOT READ]
- <sub>6</sub> REFUSED [DO NOT READ]

Q.90 About how many members of your family use tobacco? READ  
(3701)

- <sub>1</sub> Almost none
- <sub>2</sub> Less than half
- <sub>3</sub> More than half
- <sub>4</sub> Almost all
- <sub>5</sub> DON'T KNOW [DO NOT READ]
- <sub>6</sub> REFUSED [DO NOT READ]

Q.91 In the last 12 months, have you and either of your parents/caregivers talked about family rules or expectations about using tobacco?

- (3702)
- <sub>1</sub> Yes
  - <sub>2</sub> No
  - <sub>3</sub> Don't Know
  - <sub>4</sub> Refused

Q.92 People vary in the experiences they seek and the people in their social network. Please tell me how much you agree or disagree with each of the following general statements. Please answer on a scale of 1 to 5, where 1 means you strongly agree with the statement and 5 means you strongly disagree. You may choose any number from 1 to 5. [REPEAT SCALE AS NECESSARY]

- 1 = Strongly agree
- 2 = Agree
- 3 = Neither agree nor disagree
- 4 = Disagree
- 5 = Strongly disagree
- 6 = DON'T KNOW [DO NOT READ]
- 7 = REFUSED [DO NOT READ]

[READ ANSWERS IN RANDOM ORDER]

- I would like to explore strange places. .... (3703)
- I like to do frightening things. .... (3704)
- I like new and exciting experiences, even if I have to break the rules. .... (3705)
- I prefer friends who are exciting and unpredictable. .... (3706)

Q.93 Let me remind you that all of your answers are confidential. The last few questions will help us make sure that we have a representative sample of respondents.

Q.94 At home do you currently have a land-line telephone, cell phone, or both?

(3707)

- <sub>1</sub> Land line
- <sub>2</sub> Cell phone
- <sub>3</sub> Both land line and cell phone
- <sub>4</sub> Don't know
- <sub>5</sub> Refused

[IF THE ANSWER IS 1 OR 4 OR 5, THEN SKIP TO QUESTION 96]

Q.95 Is your cell phone for your use only, or is it shared with someone else?

(3708)

- <sub>1</sub> Self
- <sub>2</sub> Shared
- <sub>3</sub> Don't know
- <sub>4</sub> Refused

Q.96 That's my last question. I want to thank you very much for your time and participation. As a thank you, we would like to send you a \$50 [check /money order]. So that I know to whom to send the [check / money order], I need to ask your name and the address where I should send it. To assure your confidentiality, after the study is complete, your name and address will be separated from your response.

Does participant want incentive?

(3709)

- <sub>1</sub> Yes
- <sub>2</sub> No

Q.97 Name

**[If participant refused incentive: Ask "My supervisor may call to confirm my work. For verification purposes, can I get your name?"]**

\_\_\_\_\_ (3710-3784)

[IF THE ANSWER TO QUESTION 96 IS 2, THEN SKIP TO QUESTION 101]

Q.98 Address

\_\_\_\_\_ (3785-3934)

Q.99 City

\_\_\_\_\_ (3935-4009)



Q.100 State (CT) \_\_\_\_\_ (4010-4011)

Q.101 Zip

**[If participant refused incentive, please ask for zip code for demographic purposes]**

\_\_\_\_\_ (4012-4021)

Q.102 That concludes our survey. Thank you very much for your time and opinions!

**(INTERVIEWER: After you hang up, there is still more info to be recorded for this interview to be considered complete!!)**

Q.103 Record your (interviewer) name here. \_\_\_\_\_ (4037-4086)

Q.104 Interviewers - now is the time to go back and edit your survey. This is your last chance to do so. Please ensure all verbatim answers are complete!

Selecting "1" will take you back to the first question for editing. You may skip to any questions that need editing using the skip, next, and previous buttons. Skip forward to this question (**104**) when you are finished editing.

Selecting "2" will record an automatic complete for this questionnaire.

INFORMATION FOR TRACKING SHEET:

Name: **[ANSWER TO Q. 97]**

Phone #: **top of screen**  
(4087)

- <sub>1</sub> No - I want to go back and edit this questionnaire
- <sub>2</sub> Yes - This questionnaire is complete

[IF THE ANSWER IS 1, THEN SKIP TO QUESTION 7]  
[IF THE ANSWER IS 2, THEN SKIP TO QUESTION 968]

Q.105 When would be a good time to call back? [Record in Survey System]

[IF THE ANSWER TO QUESTION 1 IS 2, THEN SKIP TO QUESTION 969]

Q.106 I'm sorry, but we are only interviewing people who are 18 to 24 years of age. Thank you very much for your time.

[IF THE ANSWER TO QUESTION 2 IS 2, THEN SKIP TO QUESTION 967]  
[IF THE ANSWER TO QUESTION 3 IS 2, THEN SKIP TO QUESTION 970]

Q.107 I'm sorry, but we are only interviewing people who live in the state of Connecticut.  
Thank you very much for your time.

[IF THE ANSWER TO QUESTION 4 IS 2-4, THEN SKIP TO QUESTION 967]

Q.108 Thank you for your time.

[IF THE ANSWER TO QUESTION 1 IS 3, THEN SKIP TO QUESTION 967]

Q.109 Phone \_\_\_\_\_ (4088-4100)

Q.110 Name \_\_\_\_\_ (4101-4175)

Q.111 Address \_\_\_\_\_ (4176-4275)

Q.112 City \_\_\_\_\_ (4276-4325)

Q.113 State \_\_\_\_\_ (4326-4327)

Q.114 Zip \_\_\_\_\_ (4328-4342)

Q.115 Interviewer \_\_\_\_\_ (4343-4346)

Q.116 Date \_\_\_\_\_ (4347-4356)

Q.117 Time \_\_\_\_\_ (4357-4363)

Q.118 Length \_\_\_\_\_ (4364-4370)

## Appendix 2. Arousal Protocol

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### Protocol for Ad Arousal

**Arousal:** The degree to which one feels ‘stirred up’, ‘excited’ or ‘stimulated’.

**Unit of Observation:**

-Anti-smoking advertisements.

**Units of Analysis:**

-Production features (e.g. cuts, music, sound effects etc.)

-Emotional category (e.g. fear, sadness, disgust, erotic, happy etc.)

-Plot features

-Story structure (structured, unstructured story)

-Peak moments

**Operationalizations:**

**Cuts (0/1/2):** The number of times the camera cuts from one visual scene to the next. Includes the final cut to agency sponsor at the end of the advertisement. (0 to 6 cuts=0; 7-14 cuts=1; more than 15 cuts=2).

**Special visual effect (0/1):** Anything beyond the range of human ability involving special visual effects, including morphing, paint or blood “sliding” down the screen, or computer manipulation of images. (0=absent; 1=present)

**Slow Motion (0/1):** The slowing of real-life action through technical innovation (0=absent; 1=present).

**Unusual Colors (0/1):** Unusual colors outside the range of colors normally perceived in real life (0=absent; 1=present).

**Intense Images (0/1):** Intense or horrifying images including needles going into arms, guns pointed at heads, or death. (0=absent; 1=present)

**Sound Saturation (0/1):** Background sound throughout the advertisement, including street noise or other sounds, rather than simply having a person talking through the advertisement (0=absent; 1=present).

**Music (0/1):** Background music in the PSA. (0=absent; 1=present).

**Sound effects (0/1):** Unusual sounds (those that could not have occurred in “real life” in that situation) heard in the advertisement, including gongs and other noises.

**Acting Out (vs. Talking Head) (0/1):** Instead of being told about the dangers of drugs (or benefits of being drug free) viewers see action corresponding to point of advertisement (0=absent; 1=present).

**Surprise/Twist Ending (0/1):** The presence of a climatic, shocking ending to the advertisement. If the end cannot be predicted, it has a “second half punch”. (0=absent; 1=present).

**Emotion (0/1):** The advertisement contains content that elicits this emotion in the coder. (0=absent; 1=present).

**-Disgust**

**-Sadness**

**-Fear**

**-Anger**

**-Happiness (erotic)**

**-Happiness (nurturant)**

**Plot (0/1):** The advertisement contains content that includes arousing plot features.

**Emotional scenes (0/1):** Scenes in which people experience strong emotion such as weddings, funerals, graduation etc. (0=absent; 1=present).

**Locations (0/1):** Scenes that contain arousing locations such as parties, amusements parks etc. (0=absent; 1=present).

**Action (0/1):** Scenes in which people engage in physically strenuous activities such as fighting, sex, violence etc. (0=absent; 1=present).

**Threat-verbal(0/1):** One or more people in the advertisement are placed in a potentially dangerous, risky, or hazardous situation through verbal threat. (0=absent; 1=present).

**Threat-physical (0/1):** One or more people in the advertisement are placed in a potentially dangerous, risky, or hazardous situation through physical threat. (0=absent; 1=present).

**Suspense (0/1):** The advertisement induces a state of uncertainty or excitement in awaiting a decision or outcome. (0=absent; 1=present).

**Surprise (0/1):** The advertisement features an unexpected moment that causes a shift in plot or a change in the emotional makeup of the advertisement.

**Story Structure:** The advertisement does not jump in space and time and contains a logical storyline. (0=absent; 1=present).

**Peak Moment:** A 3-second length of time during the advertisement during which peak arousal occurs, as defined by the administrators.

#### **Unit Identification Guidelines:**

Coders will view each ad a total of five times:

1. Count only the number of cuts in the advertisement, and mark a 0, 1 or 2 on the attached sheet.

2. Code for all production features of the ad: special visual effect, slow motion, unusual colors, intense images, sound saturation, music, sound effects, acting out, surprise/twist ending and mark a 0 or 1 on the attached sheet.
3. Code for all emotions present in the ad, and mark a 0 or 1 on the attached sheet.
4. Code for all plot features of the ad: emotional scenes, locations, action, verbal threat, physical threat, suspense, surprise, story structure.