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NC Health & Wellness Trust Fund

# Evaluation of the North Carolina Tobacco. Reality. Unfiltered. (TRU) Media Campaign

Prepared by UNC School of Medicine  
Tobacco Prevention and Evaluation Program (TPEP)  
for the NC Health and Wellness Trust Fund

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## 1. Executive Summary

Scientific evidence demonstrates that properly designed, sufficiently funded, and ongoing counter marketing campaigns reduce youth smoking rates, particularly when combined with school and community mobilization. In 2004, the North Carolina (NC) Health and Wellness Trust Fund (HWTF) initiated a tobacco use prevention television media campaign for youth, called *Tobacco.Reality.Unfiltered.* (TRU), to complement their community based tobacco prevention and cessation programs. The TRU media campaign has occurred in the state's six media markets from Spring through Fall 2004 (F1), with four TV ads, and from Fall through Winter 2005 (F2), with 4 new ads. The media vendor for the TRU campaign designed the ads based on a "best practices" model that suggested multiple components needed for an effective media campaign in the state. Based on positive youth reactions to a tracheotomy survivor, Terrie Hall, featured in the F1 TRU ads, new ads were created and underwent focus group testing for launch in the F2 TRU ads.

The University of North Carolina at Chapel Hill Tobacco Prevention and Evaluation Program (TPEP) measured the effectiveness to date of the TRU campaign through a telephone survey of a sample of NC youth at three time periods: before the campaign began (T1), after the first flight of ads (T2), and after the second flight of ads (T3). The telephone survey assessed NC youths' awareness, comprehension, and reaction to the current media campaign, their current smoking behaviors, their future smoking intentions, their attitudes against and knowledge of tobacco use, and their attitudes about the marketing of tobacco products.

### Evaluation of the Campaign to date shows that:

- 1) *The TRU Media Campaign continues to move in the right direction in terms of constructing, refining, and delivering effective messages;*
- 2) *Youth awareness of the TRU Media Campaign, including ads, logos, and slogans is moderate but less than some national campaigns;*
- 3) *Higher amounts of media exposure have resulted in higher campaign awareness;*
- 4) *Lack of sufficient and continuous funding for the TRU Media Campaign have limited campaign exposure, resulting in levels of awareness lower than that needed to optimally demonstrate long-term outcomes; and*
- 5) *North Carolina's Media Campaign remains a critical component of its comprehensive tobacco prevention and control program.*

### Specific recommendations include:

- 1) *Funding for the TRU campaign should dramatically increase to push exposure to the TRU campaign to at least the level of the original TRU campaign in the Charlotte area, or to levels that meet or exceed national campaigns.*
- 2) *Funding for the TRU campaign must occur on a continuous basis, with no more than a two-month break between ad flights.*

- 3) *New TRU ads should continue to evolve, using the successful themes contained in prior North Carolina best practices media and focus group reports, along with evaluation findings in this report.*
- 4) *Future ads should continue to receive focus group testing prior to dissemination.*
- 5) *Continued evaluation of the North Carolina media campaign is essential to gauging its effectiveness.*
- 6) *Continued integration of the media campaign with community mobilization efforts must occur to maximize campaign effectiveness.*

Results for specific campaign components show:

## **I. Tobacco Behaviors**

### *Use of tobacco*

- ❑ Seventeen percent used tobacco, including 14% that used cigarettes, 5% that used smokeless tobacco, and 8% that used cigars.

### *Desire to quit among youth smoking cigarettes*

- ❑ Over 80% that used cigarettes reported wanting to completely stop smoking.

### *Susceptibility to Smoking*

- ❑ Roughly one-third remain susceptible to smoking, and 11% remain susceptible to smokeless tobacco products.

### *Exposure to Secondhand Smoke and Household Smoking Behaviors*

- ❑ One out of four report that at least one person in their home smokes cigarettes, and 25% of households have at least one person with asthma or other severe breathing problems.
- ❑ Youth reports on household rules about smoking appear to be strengthening, with fewer youth reporting that there are no rules about smoking in their homes.

## **II. Campaign Effects**

### *Campaign Awareness*

- ❑ Fifty-four percent of North Carolina youth saw one or more TRU ads in 2005.
- ❑ Confirmed awareness for the Tobacco. Realty. Unfiltered. (TRU) media campaign among NC youth ages 11 – 17 appears to have increased from 45% (F1 ads) in 2004 to 54% (F2 ads) in 2005.
- ❑ Youth in the Charlotte media market continue to have significantly greater awareness of the campaign compared with the rest of the state (66% vs. 49%).

### *Ad Receptivity*

- ❑ Youth who saw one or more F2 TRU ads responded positively to the ads. Over 90% of the youth seeing the ads reported that they were convincing, attention-grabbing, and gave good reasons not to smoke. The last flight of 2004 ads, along with the 2005 ads, received consistently high ratings across all dimensions.
- ❑ Over 25% of youth who have seen the ads reported that they talked to their friends about the ads, indicating fairly high “chat value”.

### *Brand Awareness*

- ❑ Recognition of the three North Carolina specific media brands, logo and slogan (*TRU*, *Tobacco.Reality.Unfiltered*, and *What’s it gonna take?*) remained stable, but did not increase from T2 to T3. All three brands are recognized by at least one third of North Carolina youth.
- ❑ Recognition of North Carolina specific media brands, logo, and slogans is less than that of two national campaigns: *Truth*<sup>®</sup> by American Legacy Foundation, and *Talk. They’ll Listen*, by Philip Morris.

## **III. Youth Attitudes**

### *Youth Attitudes towards Smoking*

- ❑ Youths’ attitudes against smoking remain very strong from T1 to T3, with greater than 90% acknowledging that secondhand smoke is harmful, that spit tobacco is likely to cause mouth cancer, and that cigarettes are addictive.
- ❑ The proportion of NC youth that believe that they will damage their health if they start smoking remains over 80%.
- ❑ The social acceptability of cigarette smoking among NC youth is mixed. Very few youth believe that smoking makes youth look attractive or cool, or that smoking shows one is not afraid to take risks. Over 50% of youth still believe that most people their age think it is okay to smoke, despite the fact that over 80% say they personally do not approve of people their age smoking.

### *Youth Attitudes about Tobacco Industry and Receptivity towards Tobacco Advertising*

- ❑ The majority of youth report that they believe that cigarette companies try to get young people to start smoking and that they are angry with such companies.
- ❑ Over 60% of youth believe that cigarette advertising displays smoking as okay and cool.

## **IV. Youth Participation in Anti-tobacco Organizations, Classes or Events**

### *Youth involvement at school*

- ❑ There appears to be a slow increase from T1 to T3 of the number of youth reporting that there is an anti-tobacco organization in their school, that they are a member in such an organization,

that they participated in an anti-tobacco school event, or that they were taught in school about smoking.

*Youth involvement in the community*

- The number of youth that report they have participated in an anti-tobacco community event during the past year appears stable.

**V. Factors relating to smoking experimentation and susceptibility**

- Data on relationships between smoking behavior and campaign awareness remain inconclusive.

## 2. Introduction

As the leading cause of preventable death in the United States and North Carolina, tobacco use harms most body organs and causes poorer health(1). Nearly 4400 youth between the ages of 12 and 17 initiate cigarette smoking each day in the United States, and 2000 youth become daily smokers. (2) Before they reach high school, 28% of youth have tried smoking, and by their senior year that proportion climbs to 53% (3). While smoking rates have been on the decline since the mid-1990s, the rate of decline has slowed (4).

In North Carolina, the 2005 Youth Tobacco Survey showed that 58.7% of high school and 32.8% of middle school students had ever used any tobacco product. Approximately 20% of high school students and 5.8% of middle school students are current smokers. (5)

In 2001, the North Carolina Health and Wellness Trust Fund (HWTF) established the Teen Tobacco Use Prevention and Cessation Initiative as one of its major programs. The planned investment for the Initiative from 2002 through 2009 is \$80.9 million. (6). Following CDC guidelines for comprehensive programs to reduce youth smoking (7), a key component of this initiative is a statewide, youth-focused mass media campaign, branded Tobacco.Reality.Unfiltered. or TRU. The television-based campaign is designed to prevent North Carolina youth from initiating tobacco use, and was funded at \$2.66 million for 2004-2005.

The TRU campaign launched in April of 2004 with three ads featuring youth telling personal stories of loved ones who had suffered serious health consequences from tobacco use. The ads were developed with information from a report on best practices in youth tobacco prevention ads compiled by the University of North Carolina Tobacco Prevention and Evaluation Program. This report suggests that one effective theme of a mass media campaign in North Carolina would revolve around serious health consequences that are based on true stories, with real people from North Carolina, telling personal stories that elicit a negative emotional tone.

The first ads based in part on these themes, *Anna, Jacobi*, and *Brad*, ran from April till October of 2004. A fourth ad, *Travelogue*, was then developed featuring a young man who wanted to quit smoking and a woman with a tracheotomy who had started smoking as a teen. This ad ran in the fall of 2004.

A new series of ads was developed for fall of 2005. These ads used footage from a "road trip" taken around NC, also featuring youth telling stories about loved ones suffering serious health consequences from tobacco use. *Travelogue* was part of this series, and two additional ads featured a young man who had lost his mother and a teenage girl whose grandmother had died. A fourth ad, *Facing Reality*, showed a young man, Gruen von Behrens, who told of the 35 surgeries he has had to undergo as a result of oral cancer he developed as a teen from spit tobacco use.

The campaign was evaluated based on a logic model developed for the TRU campaign. Since the TRU campaign is television and website-based, the major outputs of the campaign can be measured by gross ratings points (GRPs) and website hits (reported by vendor). Gross ratings points are a measure of the reach of an ad (the estimated proportion of an audience that would have the opportunity to see the ad) and the frequency of an ad (the estimated number of times the target audience could see the ad in a given time period).

Gross ratings points for the 2004 ads appear in Table 2A.1.



**Table 2A.1: Gross Ratings Points for 2004 TRU Ads**

Market	Total GRPs	Anna GRPs	Jacobi GRPs	Brad GRPs	Travelogue GRPs
Charlotte	5,800	2,080	2,080	1,040	600
Greensboro/WS	4,200	1,560	1,560	780	300
Greenville/New Bern	3,400	1,240	1,240	620	300
Raleigh/Durham	3,600	1,320	1,320	660	300
Myrtle Beach (NC counties)	1,800	720	720	360	
Norfolk (NC counties)	1,000	400	400	200	
Wilmington	3,400	1,240	1,240	620	300

Gross ratings points for the 2005 ads appears in Table 2A.2.

**Table 2A.2: Gross Ratings Points for 2005 TRU Ads**

Market	Total GRPs	Travelogue*	Family Loss*	Stop & Think*	Facing Reality
Asheville	481	158	158	158	7
Charlotte	1,535	376	376	376	407
Greensboro/WS	1,451	416	416	416	203
Greenville/New Bern	1,605	440	440	440	285
Raleigh/Durham	1,483.5	442.5	442.5	442.5	156
Norfolk (NC counties)	388 spots	67 spots	67 spots	67 spots	187 spots
Wilmington	1,313	356	356	356	245

\* These ads are asked about in combination in the TRU survey as the “TRU Road Trip Series”

As can be seen by the GRPs, the dose of the 2005 campaign as measured by GRPs was approximately one-third of the dose of the 2004 media campaign.

Campaign outcomes are expected to change over time; that is, there are some outcomes that may be evident after a campaign’s first year, such as campaign awareness, and others that might not be seen for a much longer period of time, such as changes in smoking behavior. The logic model shows potential outcomes for the TRU campaign (See Appendix). Because this report focuses only on the first two years of the TRU campaign, this report focuses on the short-term outcomes of the campaign: awareness of campaign brand, awareness of individual ads, awareness of the campaign website featured in the ads, and youth reaction to the ads they have seen.

Short-term outcomes are measured in several ways. Campaign awareness is measured through an aided recall question, in which interviewers ask youth if they have seen any ads featuring a particular theme or slogan. In addition to the branding associated with the TRU campaign, youth are asked about brands from a national anti-tobacco campaign, a tobacco industry-sponsored anti-tobacco campaign, and a placebo campaign for purposes of comparison with awareness of the TRU brands.

To measure individual ad awareness, interviewers give youth one identifying piece of information about an ad and ask them if they have seen the ad (aided recall). If the youth says yes, interviewers ask them to describe the ad in order to obtain a measure of confirmed ad awareness. Through this methodology, errors from agreement bias or youth confusion with ads from other campaigns can be

avoided. Recognition of the campaign website is assessed through unaided recall. Youth are asked if they saw a website shown at the end of the ad, and if so, are asked what the website was.

Finally, youth are asked about their reaction to the ads they say they have seen. They are asked if they found the ad to be convincing, whether the ad grabbed their attention, whether it gave them good reasons not to smoke, and whether they would talk to their friends about the ad.

This report provides evaluation results of the 2004 and 2005 TRU television campaign.

### 3. Methods

The media vendor created a series of ads for the first flight (F1) and second flight (F2) of the *Tobacco.Reality.Unfiltered.* media campaign using best practices reports and focus group studies. While the long-term goal of the media campaign is to prevent the start of teenage smoking, short-term goals included promoting pro-health attitudes and educating North Carolina teenagers on the dangers of smoking. In order to reach a critical mass of North Carolina youth, TRU ads were targeted toward teen-friendly channels such as the WB, Nickelodeon, VH-1, and MTV.

The evaluation of the TRU media campaign used telephone survey methodology. The Survey Research Unit (SRU) at the University of North Carolina at Chapel Hill designed and conducted baseline and follow-up interviews for assessing tobacco use, attitudes toward tobacco use, and awareness of anti-tobacco media campaigns in a random sample of youths in North Carolina.

The baseline survey (T1) was conducted in March and April of 2004, which preceded the campaign launch in April 2004. This survey (N=634) collected basic demographic information, lifestyle information, smoking behaviors and intentions, tobacco-related knowledge and attitudes, involvement in anti-tobacco activities, and awareness, comprehension, and reaction to two national anti-tobacco television ads and brand awareness of several anti-tobacco themes or slogans.

The second wave of the survey (T2) took place immediately following the fall flight of the 2004 media campaign. The follow-up survey (N=604) was identical to the baseline survey in assessing lifestyle information, smoking behaviors and intentions, and involvement in anti-tobacco activities. Some tobacco-related knowledge and attitude questions were revised to better reflect the interest of the researchers. Awareness, comprehension, and reaction to two national anti-tobacco ads and the four North Carolina specific anti-tobacco ads were also assessed, as well as brand awareness for these and other anti-tobacco media campaigns.

The third wave of the survey (T3) took place immediately following the fall and winter flight of the 2005 media campaign. The T3 survey also assessed smoking behaviors and intentions, involvement in anti-tobacco activities, tobacco-related knowledge and attitudes, awareness, comprehension, reaction and brand awareness to new North Carolina specific anti-tobacco ads, comparison to national ads, and attitudes and receptivity to tobacco advertising. The methodology reported here refers to the T3 data collection period.

Figure 3A.1 of TRU media campaign shows flight information and timeline for data collection.

**Figure 3A.1: TRU media campaign evaluation timeline**

	FLIGHT 1 TRU Campaign*										FLIGHT 2 TRU Campaign#					
	T1 Data Collection									T2 Data Collection					T3 Data Collection	
2004	M	A	M	J	J	A	S	O	N	D	2005- 6	N	D	J	F	
* Anna, Brad, Jacobi (4/12-10/17); Travelogue (10/18-11/7) # Travelogue, Family Loss, Stop & Think, Facing Reality (Gruen) (10/24-12/31)																

Eligibility for participation in T3 was established by reaching a household headed by an adult (18 or older) in NC with one or more residents age 11-17. Since the baseline occurred in spring 2004, many respondents turned 18 or 19 by the T3 data collection period. Respondents who “aged-out” were kept in the sample if they still resided in NC, but they were not given population-based weights in the final dataset because weights from the T1 and T2 data are based on population counts for 11-17 year old teens living in NC, not 18 or 19 year old teens. Specifically, weights could not be produced for this group without losing comparability to the first two rounds of data collection. Therefore, cross-sectional weights were provided as part of the T3 dataset to allow for direct comparisons between rounds to determine, for example, if smoking rates changed, if attitudes toward smoking have changed, etc.

The sample design for T3 is classified as a stratified, multi-round longitudinal study with supplementation. Stratification, as in previous waves, was predicated on two media markets in the state (Charlotte and the remainder of the state) since Charlotte received an initial higher dose of the media campaign at T2. Stratification was based on a dual-frame sample design used at all data collection rounds as a best method to ensure adequate coverage and reduce costs of screening all households. Dual-frame approaches were also used in sample supplementation to account for general attrition due to inability to interview the respondent (e.g., respondent moved out of state and was no longer eligible, a nonworking telephone number, respondent was otherwise unreachable); refusals to participate in follow-up calls; and baseline respondents had aged-out and replacement was needed in order to maintain an adequate sample size.

The first frame for supplementation utilized a stratified Random Digit Dial (RDD) sample of NC households with phone line access. A proportionately allocated stratified sample of 3,089 phone numbers purchased from Marketing Systems Group was used. The second part of the sample came from a proportionately allocated stratified targeted sample of listed phone numbers in NC (not overlapping with the RDD sample) using 384 sample phone numbers targeting households with 1 or > residents 11-17 years of age (inclusive). Stratification and proportionate allocation to strata were done in the same way as for the RDD frame.

Of the 604 follow-up numbers available for calling at T3 data collections (i.e., completed interviews from T2), 163 cases were pulled out and treated separately to determine whether or not they have aged-out of the study and if they still lived in North Carolina. The total numbers placed in calling for this round of data collection are indicated in the following table.

**Table 3A.1: Classification of Numbers Used for Follow-up**

<b>Classification</b>	<b>Numbers Used</b>
Follow-up Regular (within 11-17 year old age range)	441
Follow-up Special (likely to have aged-out)	163
Supplementation	3473
<i>Total</i>	4077

At the end of calling, there were 785 completed interviews. The breakdown is provided in the table below.

**Table 3A.2: Classification of Participation at Follow-up**

<b>Classification</b>	<b>Completes</b>	<b>Refusals</b>	<b>Ineligibles</b>	<b>Not Screened</b>	<b>Totals</b>
Follow-up Regular	387	27	21	6	441
Follow-up Special	115	29	16	3	163
Supplementation	283	120	2278	792	3473
<i>Total</i>	785	176	2315	801	4077

The overall response rate was 65.6% (RR4) as given by the standards set by the American Association for Public Opinion Research (8). A breakdown of response rates is given in the following table.

**Table 3A.3: Response rate for Follow-up Calls**

<b>Classification</b>	<b>Response Rate</b>
Follow-up Regular	92.2 %
Follow-up Special	78.4 %
Supplementation	54.2 %
Total	65.6 %

### **Statistical Analysis**

All data were analyzed using SAS survey procedures to account for both complex survey designs (e.g. stratification) and sampling weights. Descriptive and categorical data analysis was performed on selected variables. In addition, logistic regressions were performed on T3 data using a backwards stepwise regression approach. This approach is data-driven, using predictor variables simultaneously entered in the regression. If a predictor has a non-significant relationship to the outcome variable, it is removed from the regression equation and the subsequent equation is re-analyzed. This process is repeated until only significant predictors are left in the regression model.

The following predictors were used: gender, race, age at T3, susceptibility,\* awareness of the TRU campaign\*\*, number of hours spent watching TV in past 3 days, number of best friends who smoke, sensation seeking behavior, agreeing with the statement, “Most people your age think it’s okay to smoke,” agreeing with the statement, “Cigarette companies get too much blame for young people smoking,” feelings toward cigarette companies, involvement in anti-tobacco school events, involvement in anti-tobacco community events, being taught the dangers of smoking in school, agreeing to wear an anti-tobacco message, agreeing to wear a cigarette company name or logo, living with someone who smokes, and having asthma.

Two logistic regressions were performed. In model 1, the outcome variable was experimentation with cigarette smoking. This outcome was measured using the question, “Have you ever smoked a cigarette, even one or two puffs?” The second model used susceptibility as the outcome measure. In order for a youth to be classified as not susceptible, he or she had to respond “definitely not” to the following three questions: 1) Do you think you will ever smoke a cigarette in the next year; 2) Do you think you will ever smoke a cigarette in the future; and 3) If one of your best friends offered you a cigarette, would you smoke it?

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\* Susceptibility was only included in models predicting awareness of the TRU campaign and experimentation of cigarette smoking

\*\* Awareness of the TRU campaign was only included in the model predicting susceptibility to smoking

UNC TPEP Evaluation of the NC Tobacco. Reality. Unfiltered. Media Campaign

## 4. Results

### 4A. Demographics

Since the data is weighted to the US Census tract, demographic characteristics reflect those of youth in the state as seen in Table 4.A1.

**Table 4A.1: Demographics (T3)\***

Variable	%
<i>Gender</i>	
Male	49
Female	51
<i>Age</i>	
11	9
12	12
13	23
14	14
15	14
16	16
17	11
Mean Age = 14	
<i>Race</i>	
White	68
Non-white	32

\* Weighted by the 2000 US Census 5-Percent Public Use Microdata Sample data

### 4B. Tobacco Behaviors

#### 4B.1 Tobacco use

The tobacco use behaviors of the sample are shown in Table 4B.1.

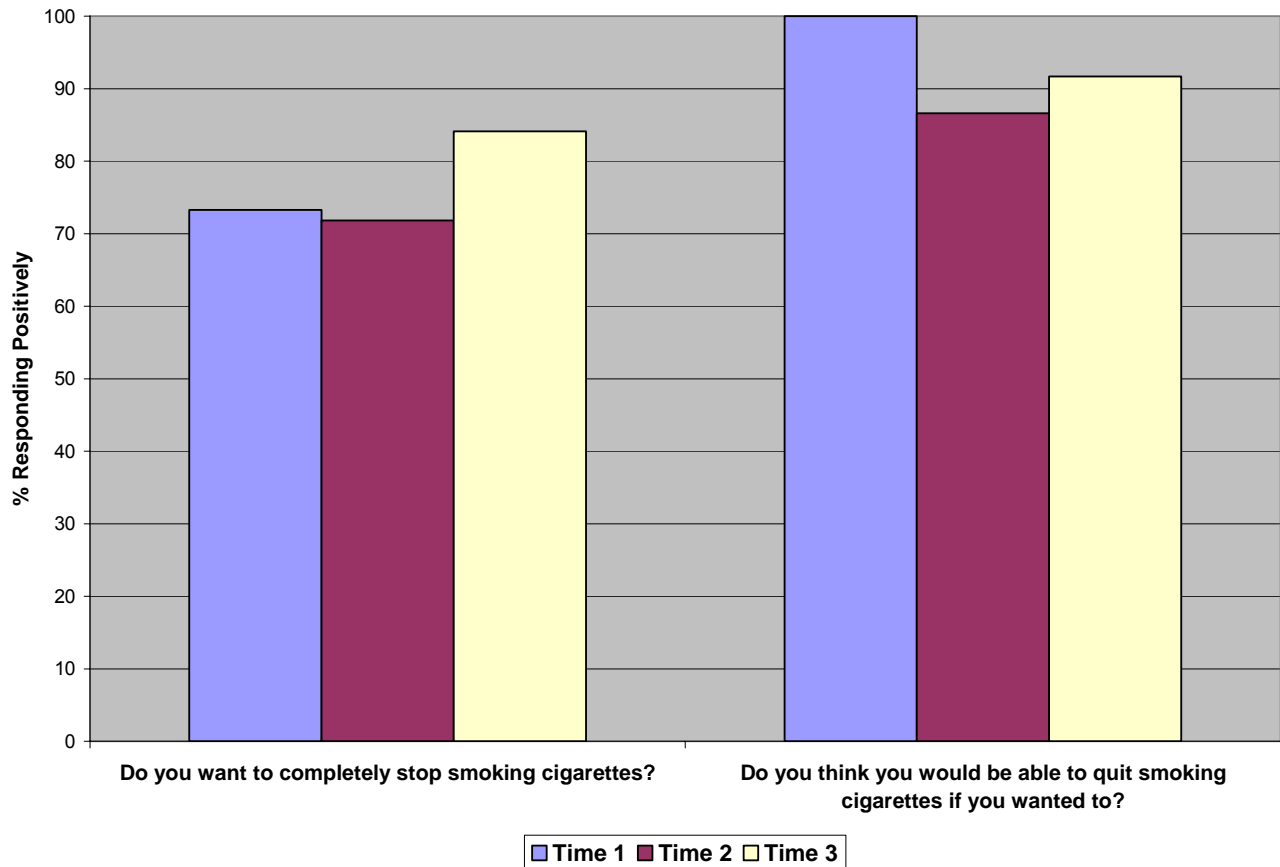
**Table 4B.1: Tobacco behaviors (T3)**

Behavior	% Yes
Ever used any tobacco product	17
<i>Cigarettes</i>	
Ever tried cigarette smoking, even 1 or 2 puffs	14
Current cigarette smoking	5
<i>Chewing tobacco, snuff, or dip</i>	
Ever used chewing tobacco, snuff, or dip	5
Current use of chewing tobacco, snuff, or dip	2
<i>Cigars, cigarillos, or little cigars</i>	
Ever tried cigar smoking, even 1 or 2 puffs	8
Current cigar smoking, even 1 or 2 puffs	3

### 4B.2 Desire to quit

Over 80% of sample youth that report using cigarettes indicate that want to completely stop smoking. This value shows an increase in desire to quit from T1 and T2. Youth perceptions on their ability to quit smoking still remain high, although there has been a decrease from T1.

**Figure 4B.2: Quitting intentions among NC youth who smoke**



### 4B.3 Susceptibility to smoking

Susceptibility to smoking is a measure of “likelihood to smoke” based on a youth’s responses to several hypothetical questions: Do you think you will smoke a cigarette in the next year? Do you think that you will ever smoke a cigarette in the future? If one of your best friends offered you a cigarette, would you smoke it? Susceptibility to smokeless tobacco use was measured by the youth’s response to the question “Do you think you will ever use chewing tobacco, snuff, or dip in the future?”

Susceptibility of tobacco use for the sample shows that among non-smokers at T1, 37% of the sample was susceptible to tobacco use. The percentage susceptible at T3 decreased slightly to 34%.

**Table 4B.3: Susceptibility for tobacco use over time**

Susceptibility	%		
	T1	T2	T3
<i>Smoking susceptibility (non-smokers)</i>			
Susceptible	37	39	34
Non-susceptible	63	61	66
<i>Smokeless tobacco susceptibility (non-dippers only)</i>			
Susceptible	*	*	11
Non-susceptible	*	*	89

\* Data not collected at T1 and T2.

#### 4B.4 Exposure to Secondhand Smoke and Household Smoking Behaviors

About one in four youth report that there is someone in their home who smokes cigarettes and of these youth, the majority report that one member of their household is a smoker.

**Table 4B.4a: Household smoking behaviors and health issues (T3)**

Question	% Yes
<i>Other than yourself, does anyone who lives in your home smoke cigarettes?</i>	26
<i>Of those responding 'yes' to the above question: How many people in your house, not including you, are smokers?</i>	%
1	64
2	27
3	5
4 or more	4
	<b>% Yes</b>
<i>Do you have asthma or other severe breathing problems?</i>	11
<i>Does anyone else in your household have asthma or other severe breathing problems?</i>	25

Youth responses about their household smoking rules are shown in Table 4B.4b. It appears that smoking rules are strengthening over time, with more youth reporting that people cannot smoke in their homes, and less reporting that there are no rules about smoking in the home.

**Table 4B.4b: Household smoking rules over time**

Question	%		
	T1	T2	T3
<i>What are the rules about smoking in your home?</i>			
People can't smoke in the house	73	76	75
People can smoke only in certain rooms of the house	6	6	7
There are no rules about smoking at home	20	16	15



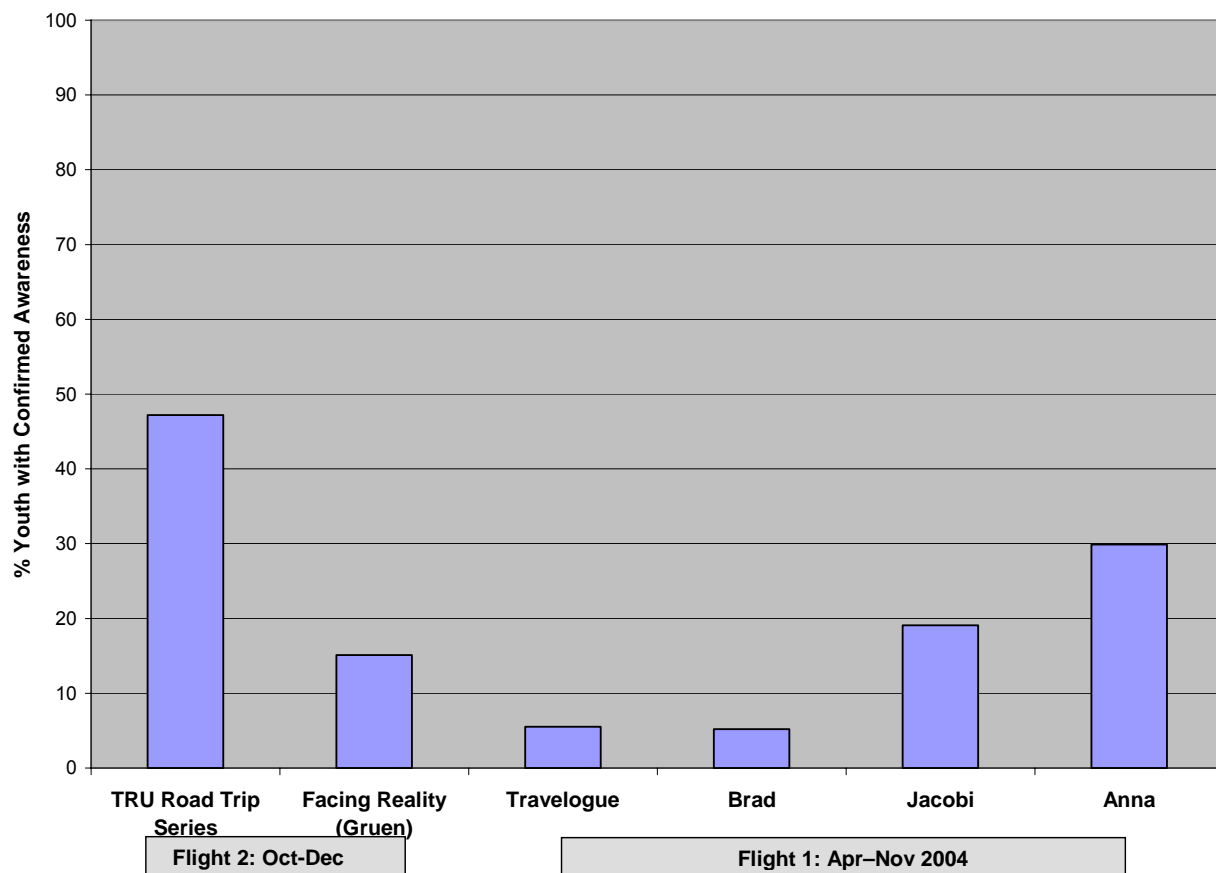
## 4C. Campaign effects

### 4C.1. Campaign awareness

Confirmed awareness for the 2005 series of TRU ads increased 9% from the 2004 campaign, with 54% of NC youth being aware of at least one ad.

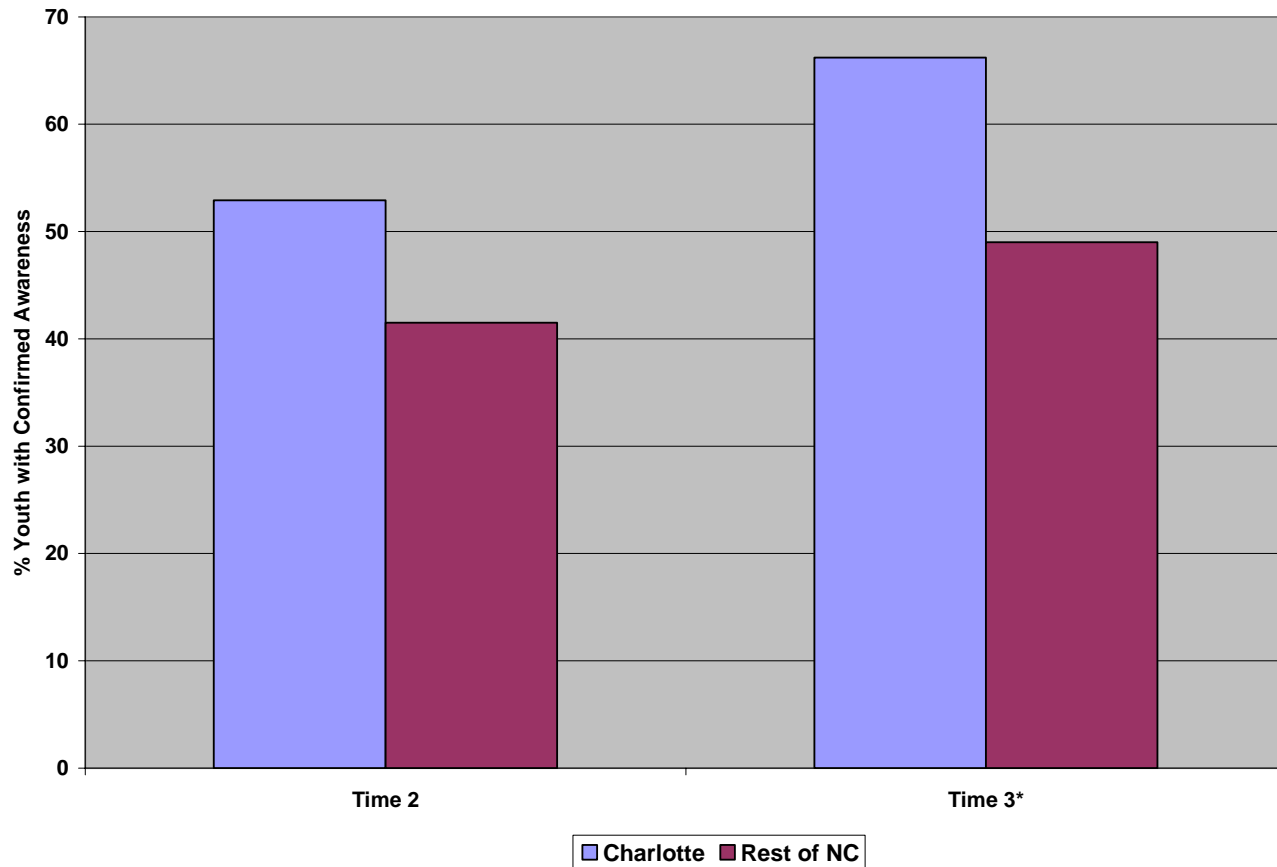
The TRU Road Trip Series consisted of three ads: Travelogue, Family Loss, and Stop & Think. Since these ads included similar footage and could not be distinguished in confirmed awareness, the percent of confirmed awareness represents the total number of youth who were able to describe at least one of these ads. Although the percentage of confirmed awareness is higher, it cannot be compared with the other individual ads. The 2004 Travelogue and F2 ads were shown over a shorter period of time as well.

**Figure 4C.1a: Confirmed awareness of individual TRU ads by NC youth**



Awareness of any TRU ad was higher in the Charlotte media market than it was in other North Carolina media markets at both T2 and T3. This difference was statistically significant at T3 as seen in Figure 4C.1b.

**Figure 4C.1b: Awareness of any TRU ad by media market**



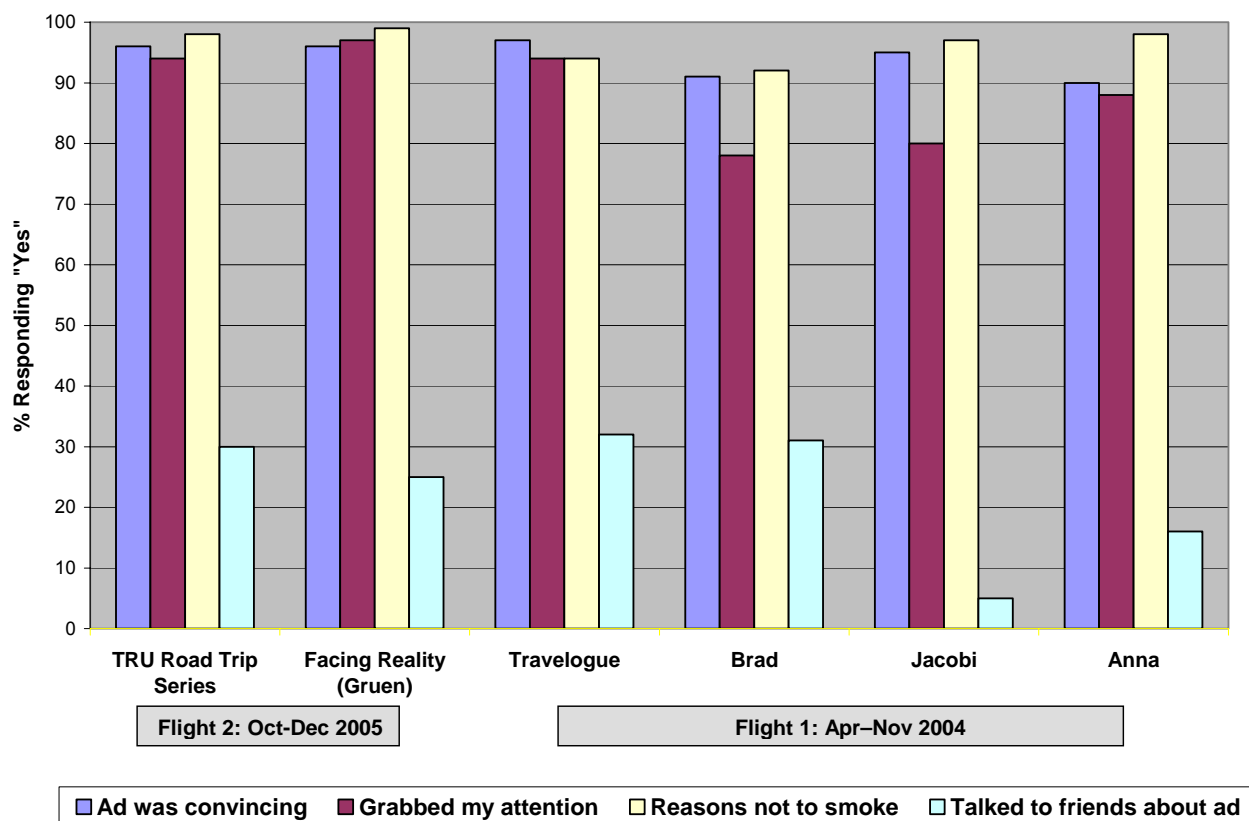
\* p < .05

#### 4C.2 Ad Receptivity

Youth who saw one or more TRU ads at F2 responded positively to the ads. Over 90% of the youth seeing the ads reported that they were convincing, attention-grabbing, and gave good reasons not to smoke.

Of the youth who had confirmed awareness of the individual ads (Figure 4C.1a), over 94% reported that the three most recent ads, TRU Road Trip Series, Facing Reality (Gruen) and Travelogue, grabbed their attention, and over 96% found these ads convincing (Figure 4C.1c). Over 25% of youth who have seen the ads reported that they talked to their friends about the ads, indicating fairly high “chat” value.

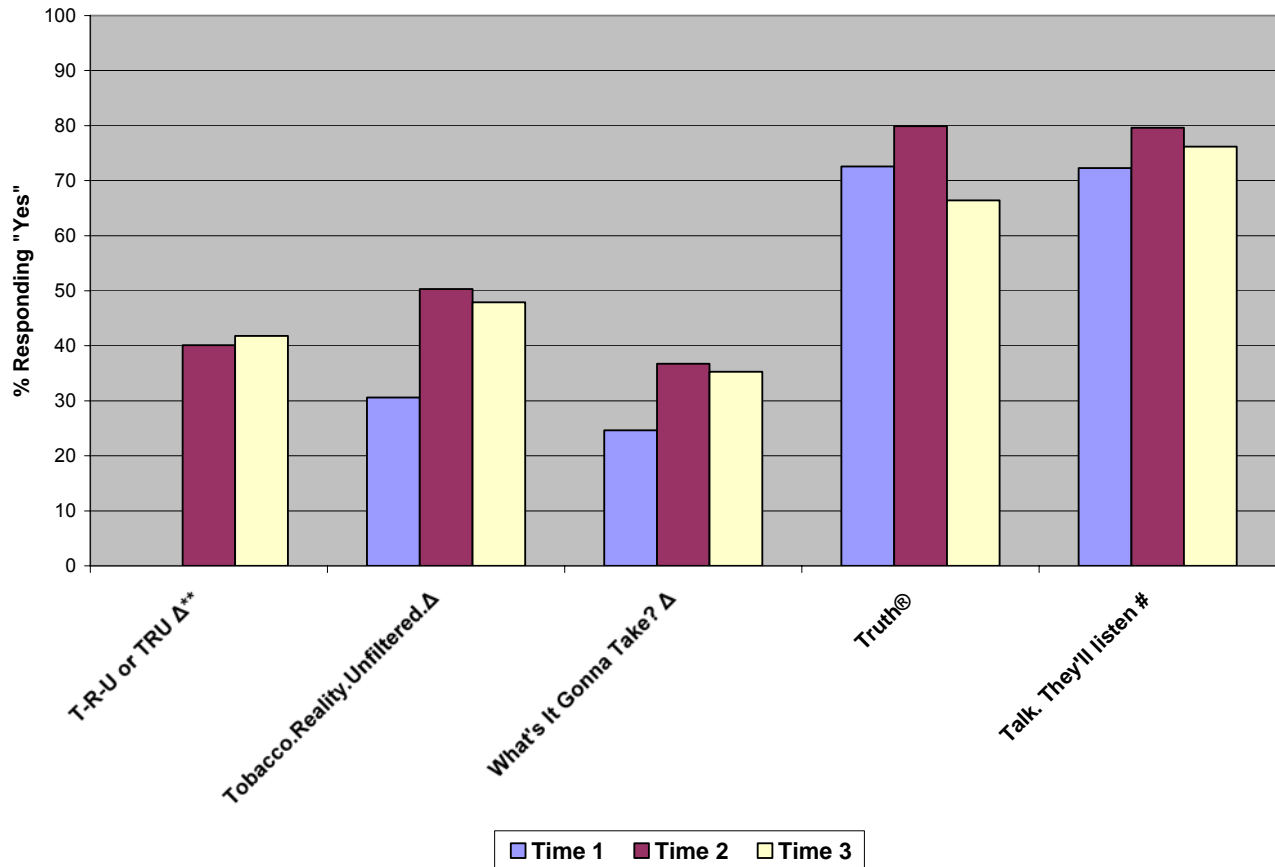
**Figure 4C.1c: Reactions to TRU ads among NC youth with confirmed awareness in 2004-2005**



### 4C.3 Brand Awareness

Recognition of the three North Carolina specific media brands, logo and slogan (*TRU*, *Tobacco.Reality.Unfiltered.*, and *What's it gonna take?*) remained stable, but did not increase from T2 to T3. All three brands are recognized by at least one third of North Carolina youth. Recognition of North Carolina specific media brands, logo and slogans is less than that of two national campaigns: *Truth* by American Legacy Foundation, and *Talk. They'll Listen*, by Philip Morris.

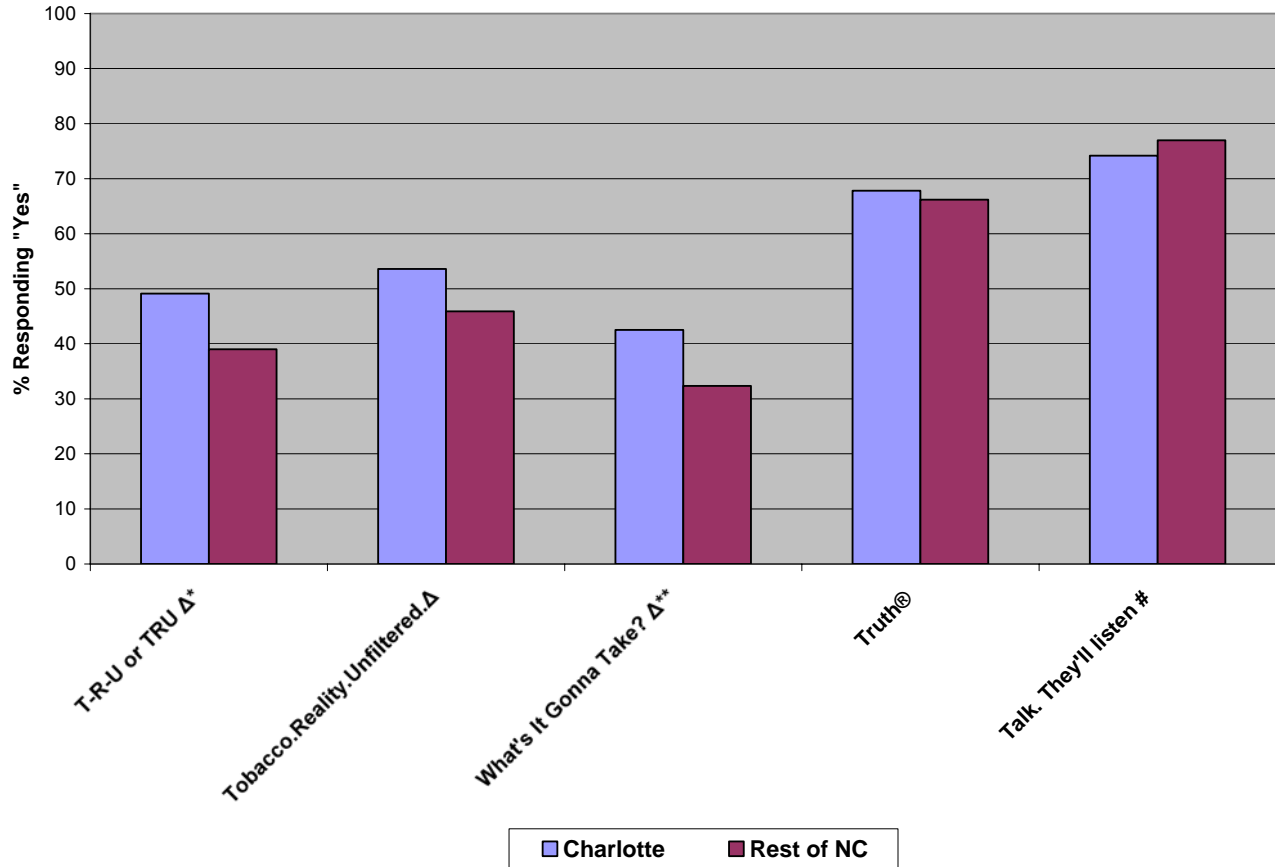
**Figure 4C.3a: NC youth awareness\* of anti-tobacco campaign themes or slogans**



\* Aided Awareness  
 © National Legacy Campaign  
 # Tobacco Industry Campaign  
 Δ NC TRU Media Campaign  
 \*\* Not asked at Time 1

As seen in Figure 4C.3b, brand awareness remains higher in the Charlotte media market compared to other markets in the state. Awareness of the TRU brand was significantly higher in Charlotte for both the *TRU* slogan and the *What's it gonna take?* slogan. Over 70% of youth reported awareness of the tobacco industry's slogan, *Talk. They'll Listen*.

**Figure 4C.3b: Anti-tobacco campaign brand awareness by media market**



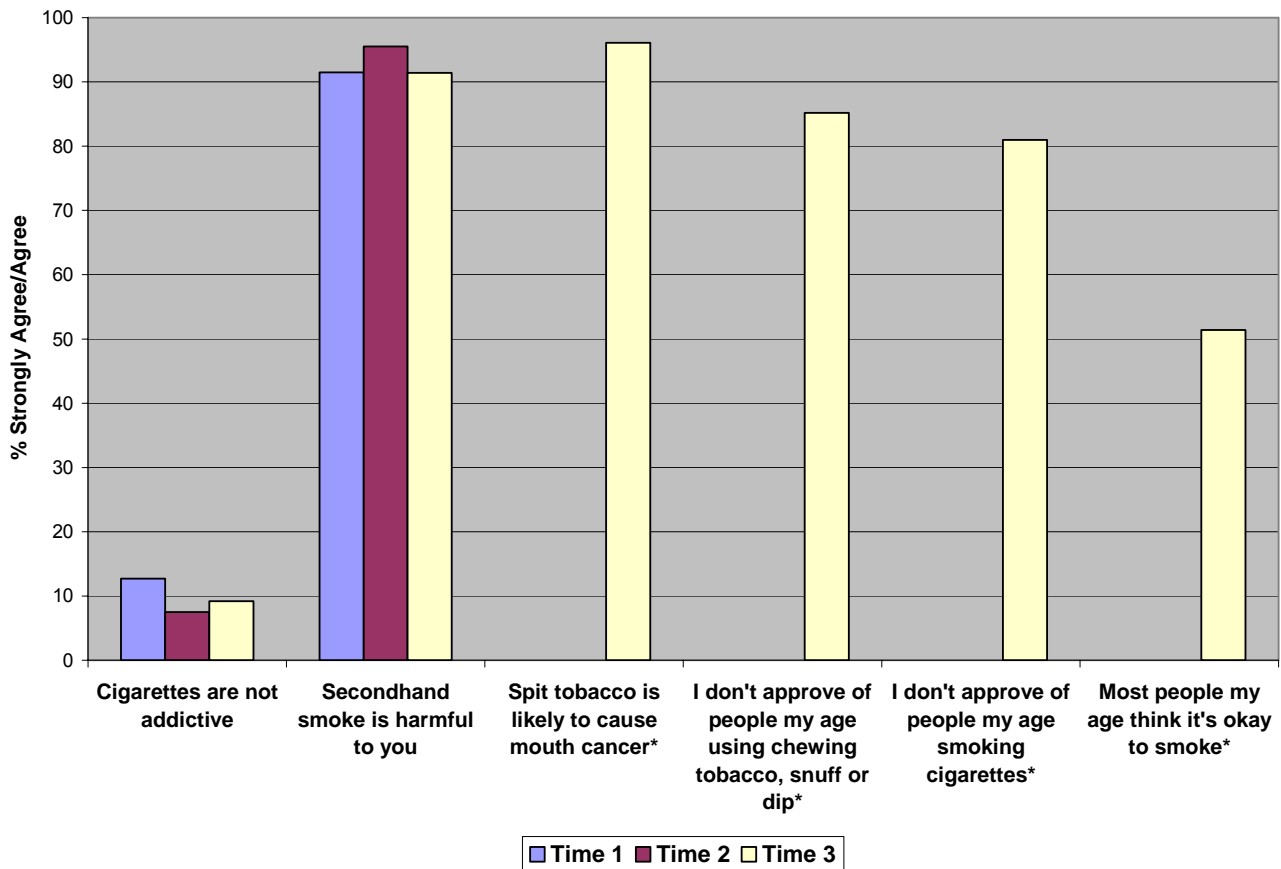
© National Legacy Campaign  
 # Tobacco Industry Campaign  
 Δ NC TRU Media Campaign  
 \*  $p = .05$   
 \*\*  $p < .05$

## 4D. Youth attitudes

### 4D.1 Youth attitudes towards smoking

Youths' attitudes against smoking remain very strong from T1 to T3, with greater than 90% acknowledging that secondhand smoke is harmful, that spit tobacco is likely to cause mouth cancer, and that cigarettes are addictive. The proportion of NC youth that believe that they will damage their health if they start smoking remains over 80%.

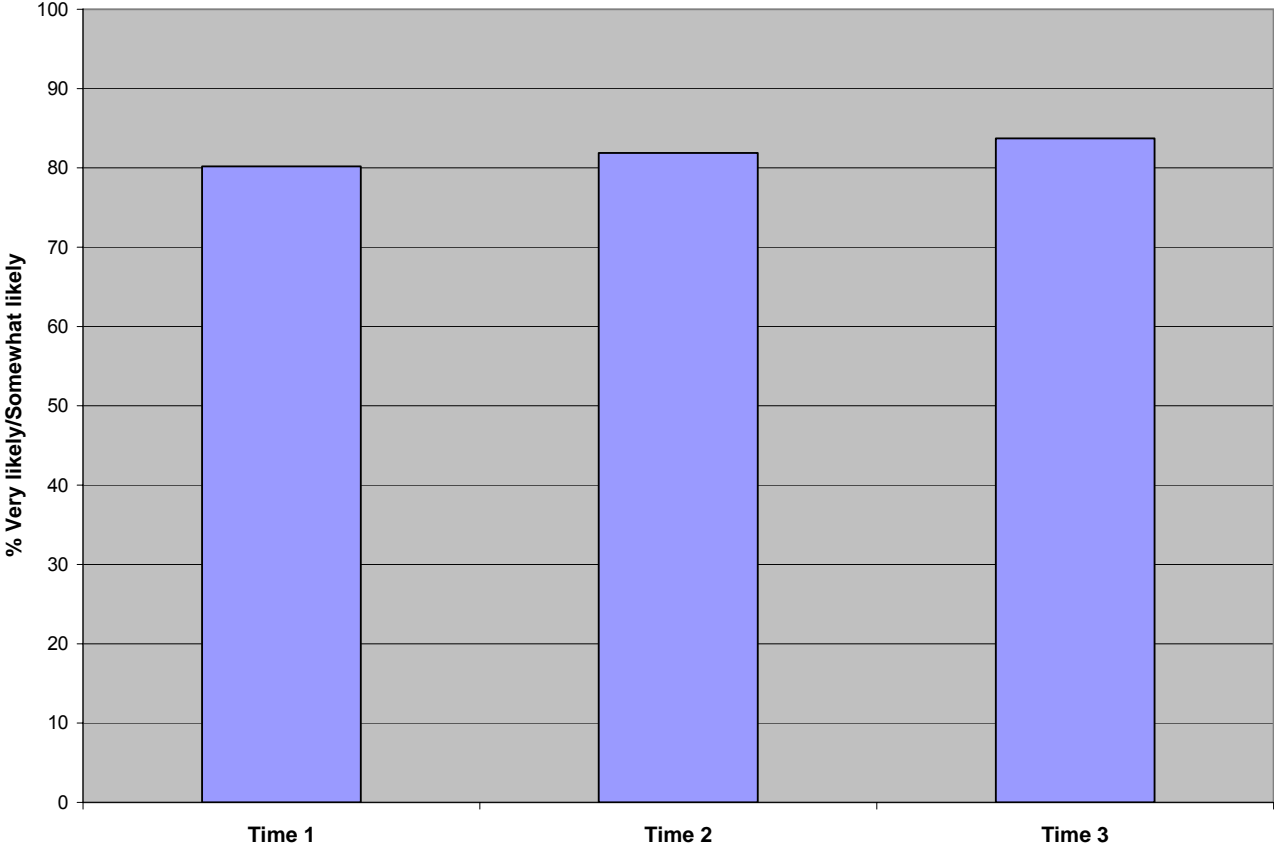
Figure 4D.1a: NC youth attitudes towards harm or approval of tobacco use



\*Asked only at T3

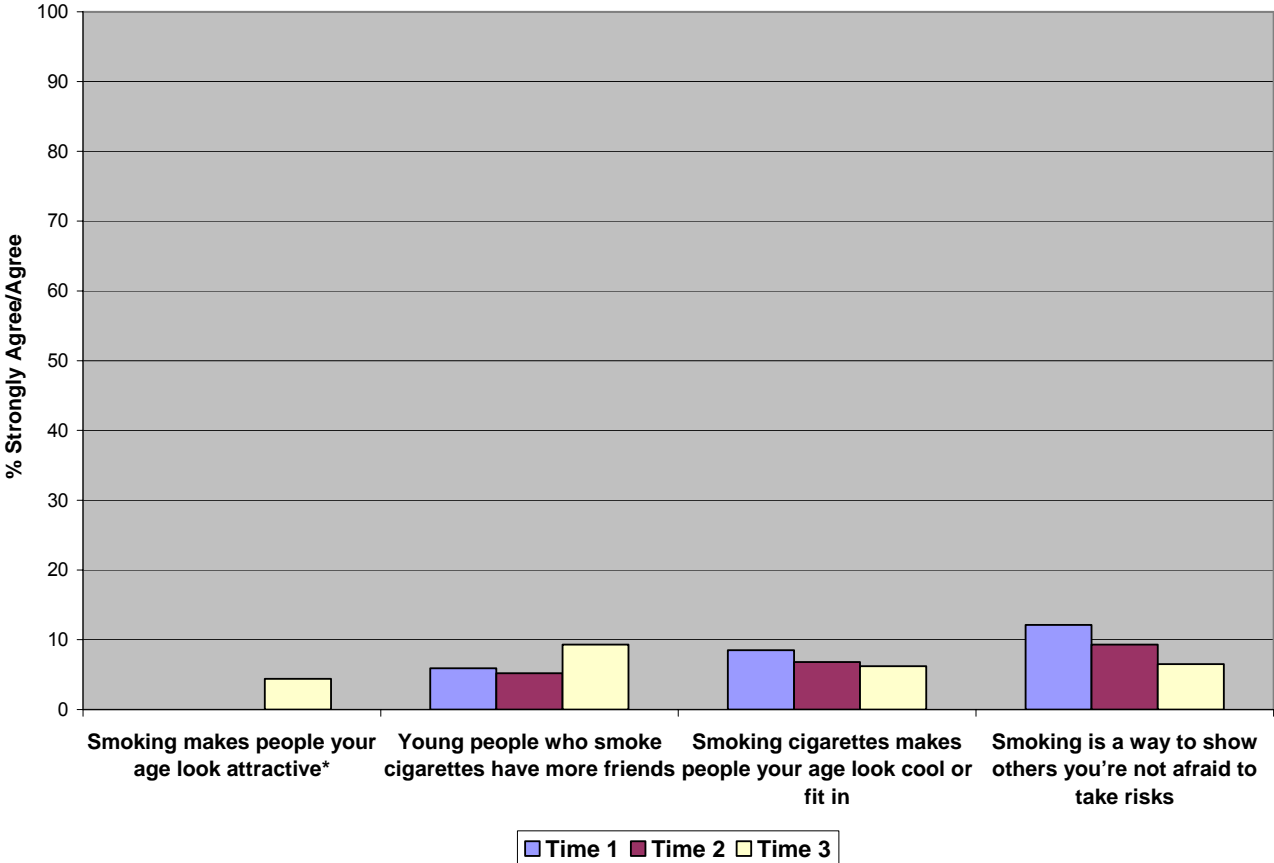
NC youth showed strong belief that their health would be damaged if they started smoking. This belief is consistent across all three time periods.

**Figure 4D.1b: NC youth’s beliefs about likelihood of damaging health if start smoking**



The social acceptability of cigarette smoking among NC youth is mixed. Very few youth believe that smoking makes youth look attractive or cool, or that smoking shows one is not afraid to take risks. Over 50% of youth still believe that most people their age think it is okay to smoke, despite the fact that over 80% say they personally do not approve of people their age smoking.

**Figure 4D.1c: NC youth views on social acceptance of cigarette smoking**



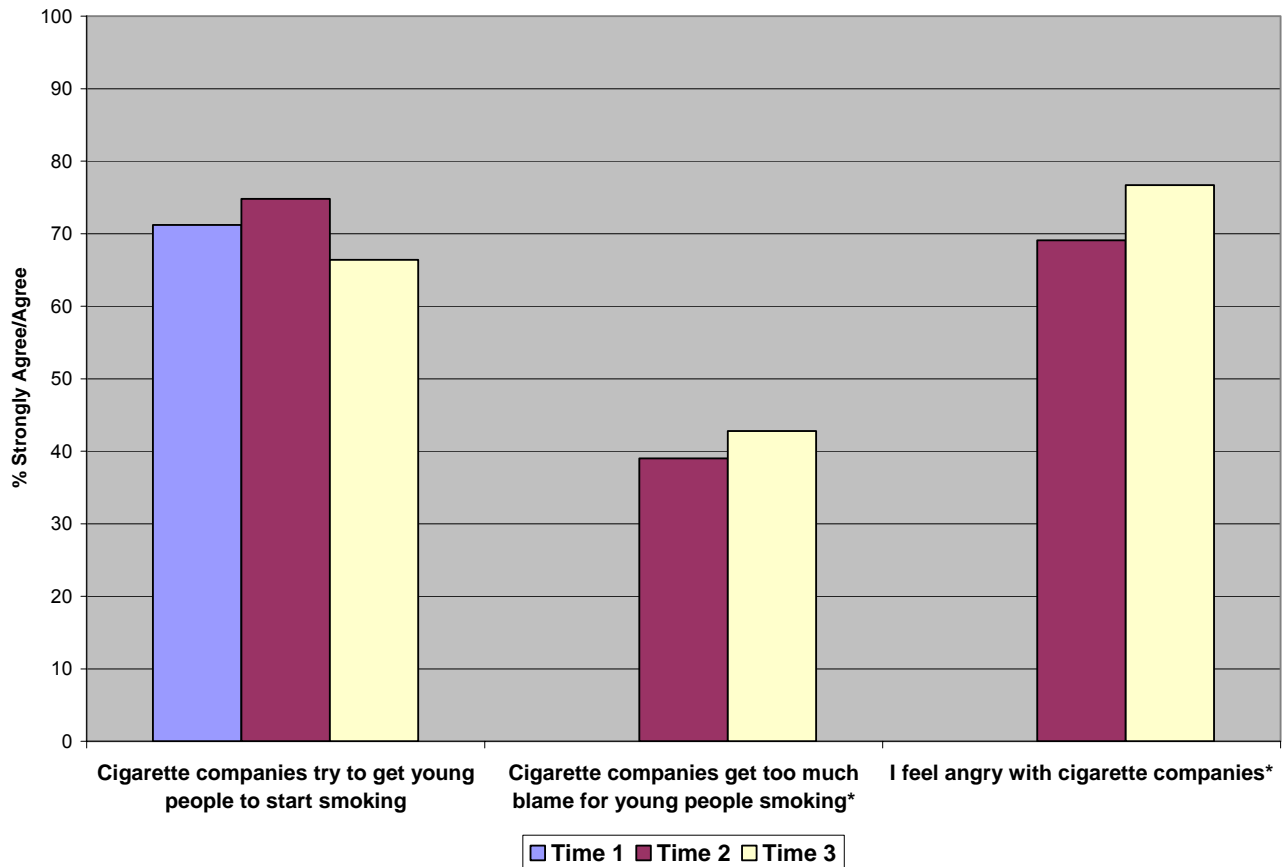
\*Asked only at T3



#### 4D.2 Youth Attitudes about Tobacco Industry and Receptivity towards Tobacco Advertising

As seen in figure 4D.2a, two-thirds of youth at T3 expressed belief that cigarette companies try to get young people to smoke, and three-fourths of youth at T3 express anger toward cigarette companies. Less than half of the youth felt that cigarette companies get too much blame for young people smoking.

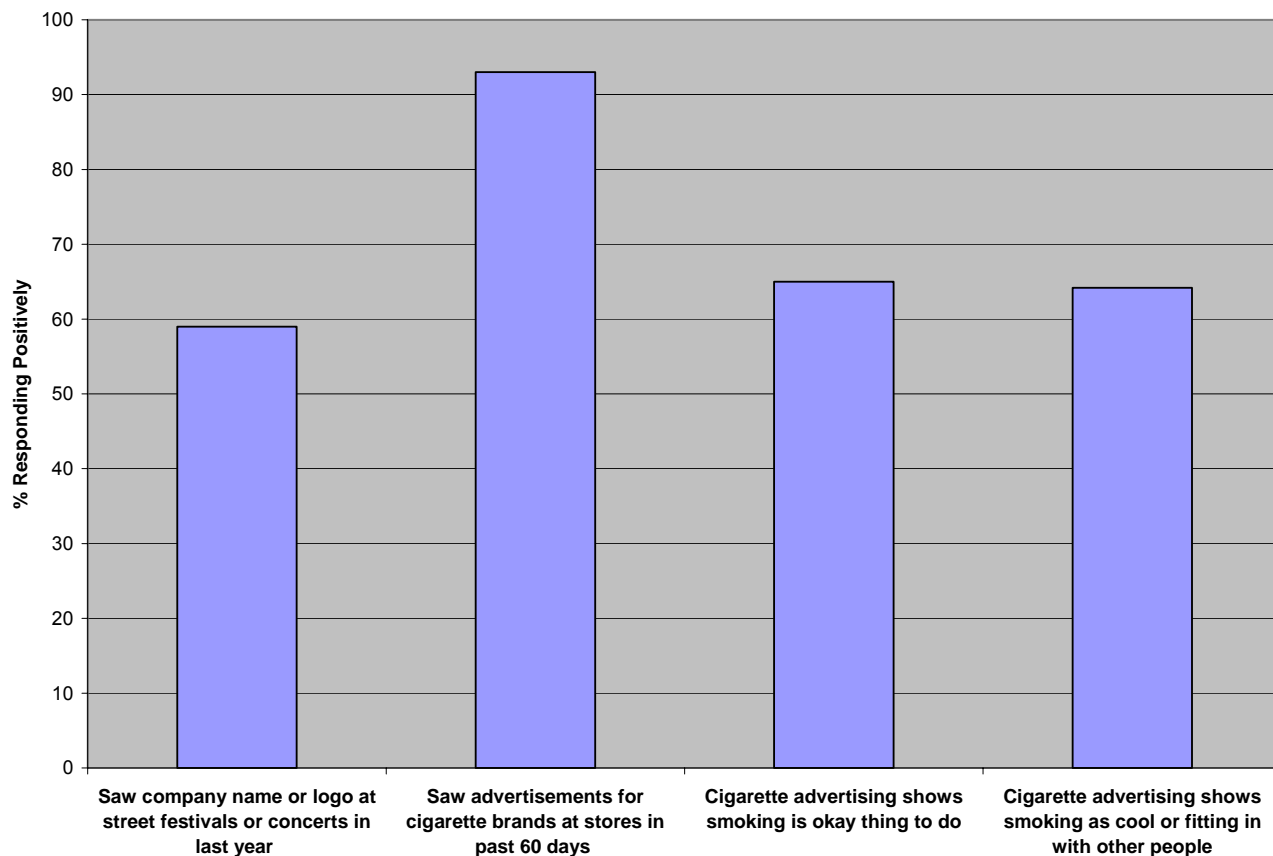
Figure 4D.2a: NC youth attitudes towards the tobacco industry



\*Not asked at Time 1

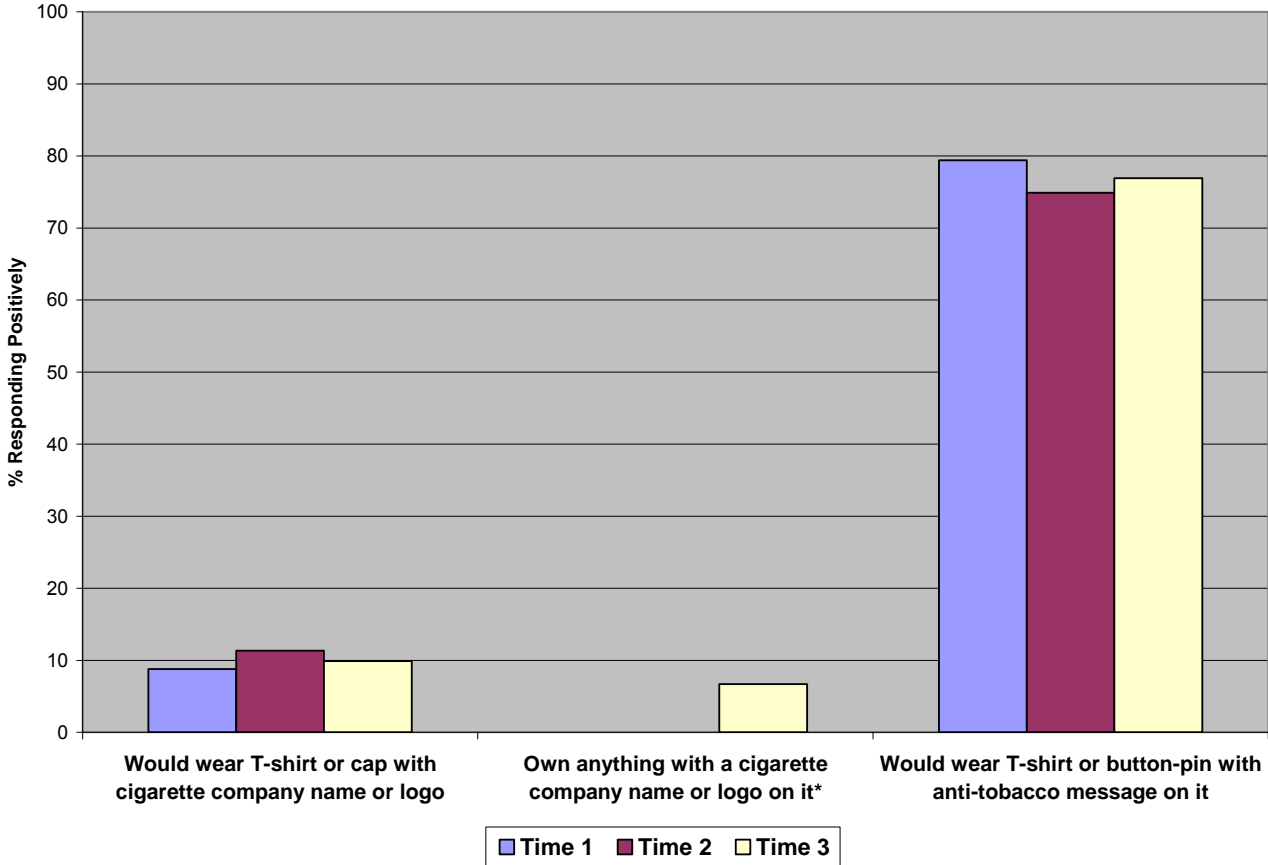
As seen in figure 4D.2b, over 60% of youth in T3 think that cigarette advertising shows that smoking is ok or cool. Over 90% reported seeing advertisements for cigarette brands in nearby stores during the past 60 days, while almost 60% had seen cigarette company names or logos at street festivals or concerts during the past year.

**Figure 4D.2b: Exposure to tobacco advertising and message content**



In contrast to the 10% of youth who reported that they would wear a T-shirt or cap with a cigarette company name or logo, over seventy-five percent of the youth responded that they would wear something like a T-shirt or button-pin that has an anti-smoking or anti-tobacco message on it

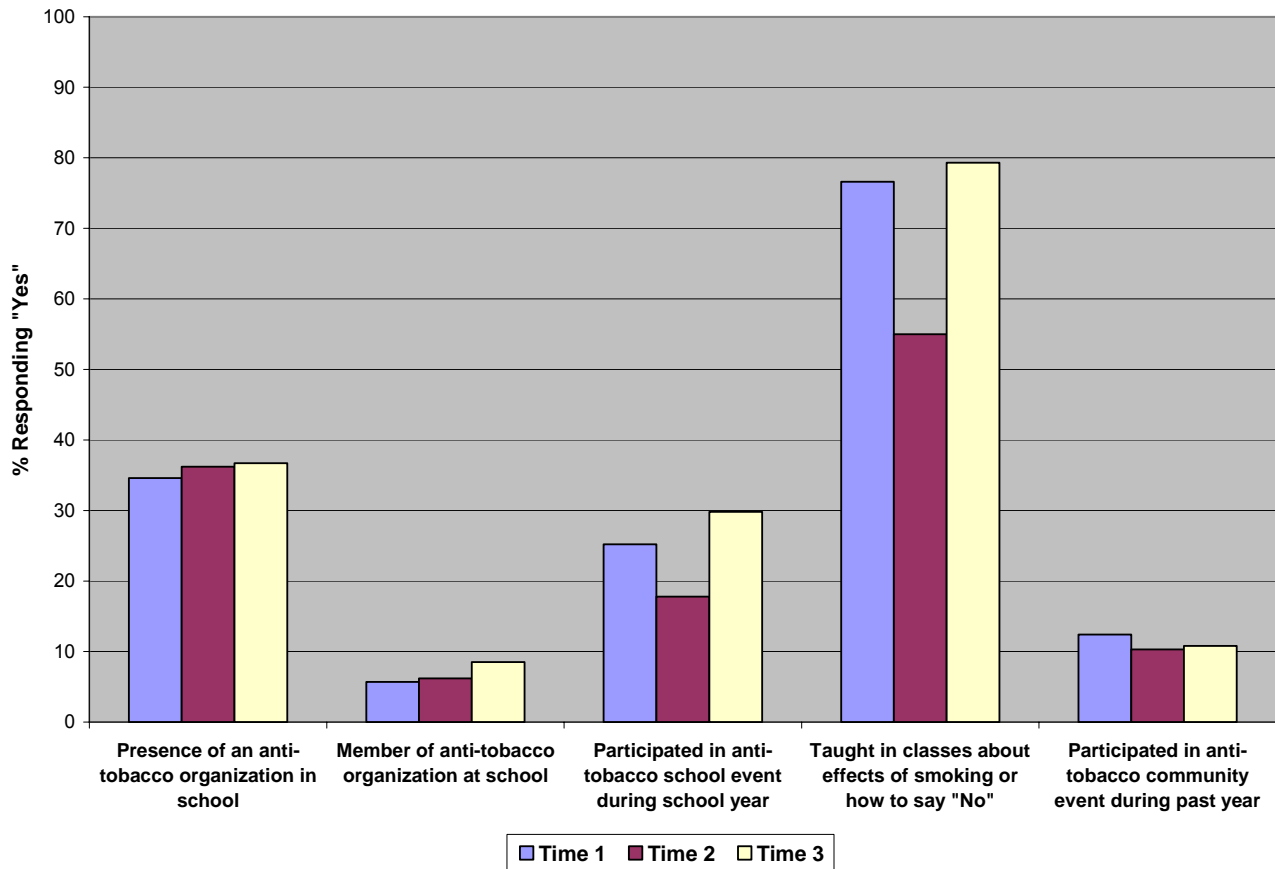
**Figure 4D.2c: Tobacco and anti-tobacco merchandise**



#### 4E. Youth Participation in Anti-tobacco Organizations, Classes or Events

A third of the youth surveyed were aware of an anti-tobacco organization in their school and almost 10% indicated membership in one of these organizations. Almost 80% of youth had learned about the effects of smoking or how to say “No”. The decreased in Time 2 for this indicator and the participation in anti-tobacco school events may be related to the time of the survey. For example, a major event for many schools is the mid-November Great American Smoke Out. Since the majority of respondents are reached in the first week of survey, this event would not yet have occurred in Time 2. Almost a third of the youth had participated in a school anti-tobacco school event.

**Figure 4E: NC youth involvement in anti-tobacco organizations, classes, or events**



#### 4F. Factors relating to smoking experimentation and susceptibility

Two statistical models show associations between tobacco use outcomes and predictor variables. In the first model (Table 4F.1), the likelihood of ever using tobacco was predicted by three variables: age, number of best friends who smoke and presence of a smoker in the home.

**Table 4F.1: Odds Ratios Showing the Likelihood of Ever Having Smoked a Cigarette, Even 1 or 2 puffs**

Predictor Variables	Odds Ratios		
	Estimate	95% CI Lower Limit	95% CI Upper Limit
Age	1.7	1.4	2.1
Number of best friends who smoke	2.4	1.9	3.2
Having a smoker live with you	2.5	1.9	3.2

The second model (Table 4F.2) shows odds ratios for variables predicting whether a non-susceptible, non-smoker at T1 will become a susceptible non-smoker at T3. Factors predictive of becoming susceptible to smoking included: displaying sensation-seeking behavior, having a smoker in the home, willingness to display a cigarette company product item, and agreeing that most people the age of the youth think it is okay to smoke.

**Table 4F.2: Odds Ratios Showing the Likelihood of Being Susceptible to Smoking\***

Predictor Variables	Odds Ratios		
	Estimate	95% CI Lower Limit	95% CI Upper Limit
Sensation seeking behavior	1.3	1.2	3.2
Having a smoker live with you	1.9	1.0	3.5
Responding 'Yes' to wearing a cigarette company name or logo	3.2	1.4	7.2
Agreeing that most people your age think it's okay to smoke	2.0	1.2	3.2

\* Only non-smokers were included in this analysis.

## 5. Discussion

North Carolina's TRU media campaign is part of a comprehensive effort in the state to improve the health of youth by preventing tobacco use, promoting pro-health attitudes, and educating youth about the harmful effects of smoking. The NC Youth Tobacco Survey (YTS) 2005 demonstrated that the rate of decline for current smoking is higher from 2003-2005 than it was from 2001-2003, and this change in rate of decline coincides with the combined efforts of the HWTF Media Campaign and the Teen Tobacco Use Prevention and Cessation Initiative, which began in 2003 (NC DHHS, 2006). These findings are consistent with the literature that supports well-funded and on-going counter marketing campaigns in conjunction with school and community based efforts to reduce smoking rates.

The primary purpose of this study is to examine campaign awareness and reactions among North Carolina youth. Findings include ad receptivity and brand awareness, along with attitudes toward smoking, tobacco use behaviors, exposure to secondhand smoke and household smoking behaviors, participation in school-based anti-tobacco activities, and attitudes about tobacco industry advertising.

Overall, TRU campaign awareness was moderate among youth, but it is encouraging that in the Charlotte media market, where exposure to the campaign in F1 ads was approximately 5-% higher, campaign awareness remains significantly higher than in other media markets. This strongly suggests that higher spending on the campaign will result in higher levels of campaign awareness.

Ad receptivity among those who saw one or more TRU ads was positive across all measured attributes. The vast majority of youth who saw the ads reported that they were convincing, attention-grabbing, and gave good reasons not to smoke. A significant minority of youth who saw the ads reported they had discussed them with their peers. The ads appear to be well received by youth, and the health information in the ads has the capacity to spread to other youth through social networking. The high ad receptivity lends further weight to suggestions to increase campaign spending, as ad construction and delivery appear strong.

Unfortunately, spending for the media campaign has suffered from two major drawbacks. Despite its early successes, the campaign has not run on a continuous basis, nor has it received sufficient funding. For instance, the F2 ads were shown approximately one-third as long as the F1 ads, resulting in less intensity of exposure. The significant delay in their appearance can also result in a distinguishing and lessening of impact.

Recognition of the three brand/logo/slogans specific to the North Carolina campaign (TRU, Tobacco.Reality.Unfiltered, and What's it gonna take?) has remained stable, but has not increased over time. Yet, all three brands are recognized by at least one third of North Carolina youth. Since the level of recognition of North Carolina specific media brands, logo, and slogans is less than that of two national campaigns (i.e., *Truth* by American Legacy Foundation and *Talk. They'll Listen* by Philip Morris), it is assumed that with increased exposure and intensity, the levels of awareness of the TRU campaign would increase. This assumption needs tracking in future evaluation studies.

Youth knowledge about and attitudes against smoking remain strong over time, with an overwhelming majority acknowledging that secondhand smoke is harmful, that spit tobacco is likely to cause mouth cancer, and that cigarettes are addictive. In addition, NC youth believe that they will damage their health if they start smoking. This indicates that knowledge of the harmful effects of smoking is strong and unlikely to dissipate in the near future.

The social acceptability of cigarette smoking among NC youth is mixed. While very few youth believe that smoking makes one look attractive or cool, more than half think others their age think it is all right to smoke. However, the majority of youth in this study said they do not approve of people their age

smoking. Because social acceptability appears linked to an increased susceptibility to use tobacco products among youth that have never smoked, future ads may want to counter the notion that kids think it is okay to smoke. Countering this message can occur both in media and community mobilization campaigns.

Slightly less than one-fifth of the youth reported using tobacco (including cigarettes, smokeless tobacco, and cigars). Of those who had smoked cigarettes, the overwhelming majority said they wanted to completely stop smoking, indicating a need for continued access to cessation resources in the state. In addition, about one-third of youth remain susceptible to smoking and smokeless tobacco products, strongly suggesting a need for continuation of tobacco use prevention efforts in North Carolina. Since having best friends who smoke is a significant predictor of experimentation with tobacco products, the more tobacco use decreases, the higher the chance that it will have a complimentary effect on lessening experimentation among non-smokers.

Youth exposure to environmental tobacco smoke remains high. Approximately one in four youth reported having at least one person in their home that smoked cigarettes and at least one person with asthma or other severe breathing problems. However, it appears that non-smoking rules in households appear to be growing, with fewer youth reporting that there are no rules about smoking in their homes. The powerful influences of environmental impacts and modeling of smoking behaviors remain substantial risk factors for youth.

Youth exposure to tobacco industry advertising also remains high. A majority of youth believe that cigarette advertising portrays smoking as being cool or fitting in. The majority of youth also reported that they believe that cigarette companies try to get young people to start smoking and that they are angry with tobacco companies. The Truth media campaign from the American Legacy Foundation has successfully capitalized nationally on youth attitudes towards the tobacco industry. Best Practices reports also indicate that youth respond well in media campaigns to ads that counter industry messages. While these themes likely work well with North Carolina youth, the political feasibility of their use in a state campaign is unlikely in the near future.

Anti-smoking activism appears to be slowly increasing among youth. The number of youth reporting one of the following has slightly increased over time: the existence of an anti-tobacco organization in their school, membership in such an organization, participation in an anti-tobacco school event, and/or being taught in school about the harmful effects of smoking. The number of youth reporting participation in an anti-tobacco community event during the past year appears stable. A cultural shift in anti-smoking attitudes and behaviors may be underway, and comprehensive efforts by HWTF community and school grantees, as well as youth experiences with such school-based efforts, may contribute over time to this socio-normative behavior change. Participation in school and community-based tobacco prevention and policy efforts by youth appears to be strongly related to lower susceptibility to experiment with tobacco products.

There are several limitations to these results. The first concerns the use of telephone surveys to assess smoking estimates of teenagers. Research has shown that telephone surveys typically yield lower estimates than school-based, self-administered surveys (see Currivan, Nyman, Turner, & Biener, 2004). Despite the fact that several questions were included in the survey on whether or not the youth was alone when answering the questions and whether or not his or her answers would have been different if he/she had been alone, it is still very likely that some of the youth being interviewed, particularly younger youth, may be uncomfortable answering the questions, and thus under-reporting their behaviors. However, for the purposes of tracking the media campaign, a telephone survey is highly reliable and cost-effective.

A second limitation is that the time between waves of data collection was unequal. Because the phone survey was initially designed as a pre-test, post-test survey, it was inevitable that a lag would

occur between T2 and T3. Because the T2 survey was only 6 months after T1 data, and the T3 survey was 14 months later, it is more difficult to model change in attitudes or behaviors. Additional waves of data collection are needed to fully determine whether changes in these variables over time are related to specific variables. Another limitation with modeling change over time is that in order to account for change in outcome variables, such as smoking initiation or change in susceptibility, with predictor variables such as awareness of a media campaign, there has to be a larger portion of the sample changing, particularly for primary outcome variables of tobacco use. However, the primary goal of the telephone survey was to assess short and intermediate term outcomes (e.g. campaign awareness, ad receptivity, attitudes, etc.) among youth in North Carolina, not the long-term outcomes of behavior change.

Findings of NC TRU Media Evaluation, coupled with YTS reports, indicate the TRU Media Campaign is likely contributing to the positive impacts of the state's education, prevention and policy efforts targeting youth tobacco use. The TRU Media Campaign continues to use best practices guidelines for constructing, refining, and delivering effective messages. Youth awareness of this campaign is at a moderate level (including ads, logos, and slogans). Trends show that campaign awareness is increasing over time and that higher doses result in higher awareness. As the first step in any effective public health campaign is to increase awareness, the NC TRU campaign is on the right track.

Based on findings of this study and the NC YTS, youth are still experimenting with and susceptible to smoking. Many youth are also still exposed to smoking in their homes and to tobacco industry advertising.

Public health gains made in this state regarding youth tobacco use have occurred in the last few years because of comprehensive efforts by HWTF to use media campaigns combined with school and community-based efforts to educate and promote health behavior change through individual and policy change strategies. Data on relationships between smoking behavior and the TRU campaign will only occur with expanded and continuous funding of the campaign, along with continued evaluation. Funding for the TRU Media Campaign is insufficient at this time to address future campaign exposure, intensity and evaluation. A great need exists to increase exposure and intensity levels to adequately address long-term outcomes.



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## Appendix: Logic Model for TRU Media Campaign

