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NC Health & Wellness Trust Fund

# 2009 Evaluation of the North Carolina TRU Media Campaign

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

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## 1. Executive Summary

North Carolina's Teen Tobacco Use Prevention and Cessation (TTUPC) Initiative, funded by the North Carolina Health and Wellness Trust Fund (HWTF), has included a statewide media campaign called *Tobacco.Reality.Unfiltered.*, or TRU, since 2004. The campaign utilizes a theme of the serious health consequences of tobacco use affecting real people in North Carolina (NC) and is evaluated using telephone surveys with NC youth. After a baseline survey in early 2004, follow-up surveys with a cohort of youth to examine the impact of the campaign took place later in 2004, 2006, and in 2007. These evaluations showed favorable youth reaction to and increasing youth awareness of the campaign. In the fall of 2006, the HWTF increased the TRU Media campaign budget by about \$3 million, to an annual budget of \$4.5 million.

In July 2008 HWTF launched a new series of five TRU ads featuring Reena Roberts, a 29 year old mother from Asheville. Through the five ads, Reena shares her story of beginning to smoke at age 13, developing cancer at 19, and undergoing a tracheotomy at 21. The 2009 TRU media evaluation survey began six months after the Reena ads first aired using a new cross sectional sample of NC youth. Evaluation results reported here provide outcome data for the 2008 TRU media campaign and show changes in key outcomes over the first five years of the TRU media campaign.

**The 2009 TRU media evaluation shows that the TRU media campaign, as currently constructed and executed, remains an integral and successful component of North Carolina's teen tobacco prevention initiative. The TRU campaign has reached record levels of campaign awareness, appears well received by youth, and is preferentially reaching those North Carolina youth at highest risk for future tobacco use. The campaign, combined with state, school and community policies (i.e., increased state excise tax, tobacco-free schools legislation, and community coalition activities), is playing a substantial role in the historically low levels of tobacco use seen among North Carolina middle and high school youth in recent surveys. Continuation and/or selective expansion of the current campaign, with ads aired on a consistent basis, should help ensure that these gains are maintained.**

*Major findings from the 2009 TRU media evaluation include:*

- Youth awareness of the TRU campaign ads, brands, and slogans has significantly increased over the first five years of the campaign.
  - Between 2004 and 2009, youth awareness of TRU ads significantly increased from 48% to 77%, and over 600,000 youth (11 to 17) in NC have seen and are aware of the NC TRU campaign.
  - Youth awareness of the *Tobacco.Reality.Unfiltered.* slogan significantly increased from 31% in 2004 to 52% in 2009.
  - Youth awareness of the TRU brand surpassed awareness of the national truth<sup>®</sup> campaign brand, reaching 62% in 2009.
- NC youth responded positively to the series of TRU ads aired in 2008.
  - More than 94% of NC youth who had seen the 2008 "Reena" ads or older TRU ads reported they were convincing, attention-grabbing, and gave good reasons not to smoke.
  - Over 30% of NC youth who had seen the TRU ads reported that they talked to their friends about the ads, indicating high "chat value."
- The TRU ads and slogans are reaching youth who are at higher risk for tobacco use.
  - Youth who engage in sensation seeking behaviors are significantly more likely to be aware of ads from the TRU media campaign and to recognize the *Tobacco.Reality.Unfiltered.* slogan.

- Youth who engage in sensation seeking behaviors and youth who believe that youth smoking is more socially acceptable are more likely to be susceptible to smoking.
- Youth participation in school and community-based anti-tobacco activities has significantly increased since 2004.
  - Almost a third (31%) of youth reported participating in school-based anti-tobacco events in the 2009 survey (24% increase from 2004).
  - Significantly more youth reported the presence of an anti-tobacco group in their community outside of school in 2009 than in 2004.

*Other findings from the 2009 TRU media evaluation include:*

- Anti-tobacco and pro-health attitudes among NC youth have strengthened since 2004.
  - Significantly fewer youth report that smoking makes people their age look cool or fit in, from 9.5% in 2004 to 5% in 2009, or that smoking is a way to show others you are not afraid to take risks, from 12% in 2004 to 8% in 2009.
- Significantly fewer NC youth appear susceptible to smoking in 2009 compared to 2004.
- Over 90% of youth report support for smoke-free policies in indoor areas they frequent and over 70% support smoke-free policies in outdoor areas they frequent.
- Youth reports indicate that exposure to secondhand smoke in the home environment is decreasing, with significantly fewer youth reporting that there are no rules about smoking in their home and significantly more youth reporting that smoking is not allowed in their home.

*The 2009 TRU media evaluation recommendations include:*

- Funding
  - Continue funding the TRU media campaign in 2009-2010, at levels similar to or increased from the 2008-2009 campaign, to maintain campaign effects.
- Campaign
  - Develop and air new ads, continuing to focus TRU campaign messages around the serious health consequences of tobacco use affecting real people in North Carolina.
  - Strive for campaign awareness rates of over 80%.
  - Increase ad “chat value” to 35% (possible strategies include building on youth social networking through communication strategies such as text messaging).
  - Continue airing ads on a consistent basis.
  - Continue to target ads to at-risk youth (i.e., youth who are high sensation seeking and susceptible to smoking).
- Integration
  - Continue integrating the TRU campaign with community and school programs.
- Evaluation
  - Continue annual evaluation of the TRU media campaign to support and provide direction for campaign growth.

## 2. Introduction

Tobacco use is the leading cause of preventable death in the United States and in North Carolina.<sup>1</sup> Most tobacco users start as youth. Approximately 3,598 youth under the age of 18 initiate cigarette smoking each day in the United States, and over 1,000 youth become daily smokers. Over 3 million youth (about 12% of all youth ages 12-17) report having used a tobacco product in the past month.<sup>2</sup> Before they reach high school, one-fourth of youth have tried smoking, and by their senior year that proportion climbs to 47%. While smoking rates have been on the decline since the mid-1990s, the national rate of decline has slowed in recent years.<sup>3</sup>

Results from the 2007 North Carolina Youth Tobacco Survey (YTS) show that 54.3% of NC high school students have ever used a tobacco product and that 19% are current smokers. Among NC middle school students, 28% have ever used a tobacco product and 4.5% are current smokers.<sup>4</sup>

In 2001, the North Carolina Health and Wellness Trust Fund established the Teen Tobacco Use Prevention and Cessation Initiative as one of its major programs. The initiative received funding of \$15 million annually for 2005 and 2006, and the HWTF increased funding for the initiative to \$17 million a year for 2007 through 2009.<sup>5</sup> Following Centers for Disease Control and Prevention (CDC) guidelines for comprehensive programs to reduce youth smoking,<sup>6</sup> 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 as part of the overall initiative at \$1.7 million for 2005-2006.<sup>7</sup> In the fall of 2006, the annual funding level was increased to \$4.5 million, followed by an increase to \$5 million for the 2007-2008 fiscal year and a return to \$4.5 million for the 2008-2009 fiscal year.<sup>5,8</sup>

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 by Capstrat, an advertising agency in Raleigh, NC, with information from a best practices in youth tobacco prevention ads report compiled by the University of North Carolina Tobacco Prevention and Evaluation Program.<sup>9</sup> This report suggested that ads projecting a negative emotional tone and featuring real North Carolinians telling true stories about the serious health consequences of tobacco use could be a part of an effective mass media campaign.

The first ads based on these themes, *Anna*, *Jacobi*, and *Brad*, ran from April through October of 2004. A fourth ad, *Travelogue*, was added in the fall of 2004. *Travelogue* featured a young man who wanted to quit smoking and introduced Terrie Hall, a woman with a tracheotomy who had started smoking as a teen.

A new series of ads was developed for fall of 2005. These ads continued the theme of featuring youth telling stories about loved ones suffering serious health consequences from tobacco use and used footage from a "road trip" around North Carolina taken by the media vendors. *Travelogue* was part of this series, and additional ads featured a young man who had lost his mother and a teenage girl whose grandmother had died from tobacco-related disease. A fourth ad, *Facing Reality*, introduced Gruen von Behrens, a young man who shared his story of undergoing 35 surgeries as a result of developing oral cancer from spit tobacco use.

In 2006, a new ad, *Truth and Consequences*, was added to the TRU rotation. Based on focus group feedback showing strong, positive youth reaction to cancer survivor Terrie Hall, who had appeared in *Travelogue* and the 2005 ads, *Truth and Consequences* featured Terrie's story. This ad ran in 2006 and 2007.

During the first two quarters of 2008, older TRU ads featuring Anna, Jacobi, and Terrie Hall aired throughout North Carolina. In July of 2008, a new series of ads launched statewide. The series of five different ads featured Reena, a 28 year old mother from Asheville, who started smoking at age 13, developed cancer at 19, and had her voice box removed at age 21. The Reena series ran through the end of 2008 and continued airing during the first two quarters of 2009.

This report provides evaluation results of the 2008 TRU television campaign. Prior evaluations of earlier phases of this campaign are available at [http://www.tpep.unc.edu/tru\\_media.htm](http://www.tpep.unc.edu/tru_media.htm).

The 2008 TRU media campaign was evaluated based on a logic model developed for the TRU campaign (see Appendix). Since the TRU campaign is television and website-based, major outputs of the campaign include 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 television ads and the 2008 television ads appear in Table 2A. During the second half of 2008, the Reena ads were also shown in over 30 movie theaters across the state, necessitating a slightly smaller television media buy.

**Table 2A: Gross Ratings Points for 2004 and 2008**

Broadcast and Cable Television Market	Total GRPs		
	2004	2008, Jan-June (Old TRU ads)	2008, July-Dec (Reena)
Asheville Cable	N/A	1,280	1,120
Charlotte/RDU/Triad	13,600	9,600	8,400
Greenville/New Bern	3,400	4,800	4,200
Northeast and South Cable	2,800	1,600	1,400
Wilmington	3,400	2,000	1,750
<b>Total Weighted State Average</b>	<b>4,000</b>		<b>5,400 (total for 2008)</b>

### 3. Methods

The media vendor created ads for the Tobacco.Reality.Unfiltered., or TRU, media campaign using best practices reports and focus group studies. The campaign's long term goal is to prevent youth smoking, and short term goals include promoting pro-health attitudes and educating NC youth about the dangers of smoking. To reach a critical mass of NC youth, TRU ads aired on teen-friendly channels such as the CW, Nickelodeon, VH1, and MTV.

The 2009 TRU media campaign evaluation was conducted using telephone survey methodology. The Survey Research Unit (SRU) at the University of North Carolina at Chapel Hill conducted interviews with a sample of NC youth to assess tobacco use, attitudes and knowledge regarding tobacco use, and awareness of anti-tobacco media campaigns.

A baseline survey (T1) was conducted in March and April of 2004 with a cohort of NC youth, preceding the campaign launch in April 2004. The T1 survey (N=634) collected basic demographic information; lifestyle information; smoking behaviors and intentions; tobacco-related knowledge and attitudes; involvement in anti-tobacco activities; awareness, comprehension, and reaction to two national anti-tobacco television ads; and brand awareness of several anti-tobacco campaigns.

The second wave of the survey (T2) was conducted immediately following the fall flight of the 2004 TRU media campaign. The T2 survey (N=604) followed the same cohort of NC youth and 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 researchers' interests. The T2 survey also assessed awareness, comprehension, and reaction to two national anti-tobacco ads and the four North Carolina specific anti-tobacco ads, as well as brand awareness for these and other anti-tobacco media campaigns.

The third wave of the survey (T3) was conducted in early 2006, following the fall and winter flight of the 2005 TRU media campaign. The T3 survey closely mirrored the T2 survey, with minor adjustments to better reflect the researchers' interests.

The fourth wave of the survey (T4) was conducted in the spring of 2007. This was the last wave of the survey that followed the cohort of youth first surveyed in 2004, ending use of the longitudinal design for the ongoing TRU media evaluation. The T4 survey assessed the same areas as the previous surveys, and added a domain to measure youth support for tobacco free policies.

The fifth wave (T5) of the TRU media evaluation survey was conducted between January 7 and March 3, 2009, following the launch of a new series of TRU media campaign ads in the summer of 2008. The T5 survey utilized a cross sectional design, with an entirely new sample of youth respondents. The methodology reported here refers to the T5 data collection period.

Major outcomes measured in this current evaluation include campaign awareness (both ad and brand awareness) and ad receptivity. Brand 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 and a placebo campaign for purposes of comparison with awareness of the TRU brands.

To measure awareness of each specific ad campaign (i.e., the national truth<sup>®</sup> campaign, older ads from the NC TRU campaign, and new TRU ads featuring Reena), interviewers provide one identifying piece of information about an ad and ask youth if they have seen the ad (aided recall). If youth say yes, interviewers ask them to describe the ad in order to obtain a measure of confirmed ad



awareness. Confirmed awareness helps prevent measurement errors from agreement bias or youth confusion with ads from other campaigns.

To measure youth reaction to ads, they are asked if they found the ads to be convincing, whether the ads grabbed their attention, whether they gave them good reasons not to smoke, and whether they would talk to their friends about the ads.

Susceptibility to smoking is an important outcome measure of “likelihood to smoke” based on a youth’s responses to several 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?

A probability sample of households in North Carolina was chosen using a dual-frame approach (a mix of random digit dial [RDD] and a targeted sample) to ensure adequate coverage and reduce costs associated with screening households. A household was eligible for participation if it was headed by an adult (18 years or older) and had a child between the ages of 11 and 17. If more than one eligible child lived in the household, one was randomly selected to participate in the survey. Parents provided consent for the survey and provided basic demographic information. Households with non-English speaking parents or youth as well as households without telephones were considered ineligible for the survey.

Calling for the 2009 survey resulted in 1,154 completed interviews. The breakdown is provided in Table 3A.

**Table 3A: Classification of Participation for 2009 Survey**

<b>Sampling Frame</b>	<b>Completes</b>	<b>Refusals</b>	<b>Ineligibles*</b>	<b>Not Screened† (Eligibility Unknown)</b>	<b>Totals</b>
RDD Sample	<b>225</b>	123	10,400	2,045	12,793
Targeted Sample	<b>929</b>	311	799	961	3,000
<i>Total</i>	<b>1,154</b>	434	11,199	3,006	15,793

\* Ineligible cases include business or other non-residential numbers, non-working numbers, and numbers reached without a youth in the target age range.

† Eligibility unknown cases include all numbers in the sample for which contact was not attempted before the end of the calling period, by which time the projected sample had been surpassed.

The overall weighted response rate was 53.7% as given by the standards set by the American Association for Public Opinion Research. Response rate calculations incorporate all phone numbers for which eligibility is unknown by determining which proportion of them, if contacted, should be eligible for completing the survey. Based on this calculation, the response rate for the 2009 survey is similar to that for the baseline 2004 survey (52.4%). A breakdown of response rates by frame is given in Table 3B.

**Table 3B: 2009 Survey Response Rates**

<b>Sampling Frames</b>	<b>Weighted Response Rates</b>
RDD Sample	<b>54.3</b>
Targeted Sample	<b>50.9</b>
<i>Total</i>	<b>53.7</b>

### ***Sample Weights***

Base sample weights were predicated upon original probabilities of choosing households from each frame and were adjusted for the total number of phone lines in the household, the number of eligible children in the household, and nonresponses. A trimming technique was used to redistribute extreme weights that resulted from the sample design and reduce the variable effect of the weights with minimum effect on the weighted estimates. Post-stratification adjustments were made to better align our sample to the population on key demographic variables. These adjustments were based on the 2000 US Census 5-Percent Public Use Microdata Sample (PUMS) data.

### ***Statistical Analysis***

All data were analyzed using SAS survey procedures to account for both complex survey designs (e.g., stratification) and sampling weights. Data analyses included weighted frequencies, chi square analyses, and multi-variable backward regression analyses. Descriptive data analyses, including chi square and were performed on selected variables. Results are presented as frequencies. Logistic regression modeling utilized a backwards stepwise regression procedure. Potential predictors used in models included measures of susceptibility to smoking, attitudes about the health effects of smoking, attitudes about the social acceptability of smoking, awareness of TRU campaign ads and brands, and participation in school and community anti-tobacco activities. Final models include odd ratio estimates and 95% confidence intervals for predictors that had significant levels of .05 or less.

## 4. Results

### 4A. Demographics

Table 4A summarizes gender, age, and race of the 2009 survey sample.

**Table 4A: Demographics (2009)**

Variable	%
<i>Gender</i>	
Male	53
Female	47
<i>Age</i>	
11	12
12	16
13	15
14	12
15	17
16	13
17	15
Mean Age = 14	
<i>Race</i>	
White	87
Non-white	13

### 4B. Tobacco Questions

#### 4B.1 Tobacco use

Behaviors related to cigarette smoking and other tobacco use are shown in Table 4B.1. A statistically significant decrease in youth who report ever having tried smoking was observed between the 2004 baseline survey and the 2009 survey.

**Table 4B.1: Cigarette smoking behaviors (2004 and 2009)**

Behavior	% Yes	
	2004	2009
Ever tried cigarette smoking, even 1 or 2 puffs*	15.8	11.5
Current cigarette smoking	3.7	4.6
Ever tried chewing tobacco, snuff, or dip <sup>†</sup>	-	3.5
Current chewing tobacco, snuff, or dip use <sup>†</sup>	-	0.9

\* Differences in rates at 2004 and 2009 are statistically significant,  $p < 0.05$

<sup>†</sup>Not asked in 2004

#### 4B.2 Desire to quit

Of the 4% of youth in the 2009 sample who reported that they were current smokers, over three-fourths (82%) reported wanting to quit. This compares to 69% of youth smokers who reported wanting to completely stop smoking in the 2004 survey. While the increase was not statistically significant, the increase in desire to quit among current smokers suggests movement in the right direction.

#### 4B.3 Susceptibility to tobacco use

Among non-smokers in 2009, 33% of youth in this survey appear susceptible to smoking (Table 4B.3). While the number of NC youth who are susceptible to smoking remains substantial, there has been a significant decrease in susceptibility since 2004.

**Table 4B.3: Susceptibility to tobacco use (2004 and 2009)**

Susceptibility	%	
	2004	2009
<i>Smoking susceptibility (non-smokers only)*</i>		
Susceptible	39.5	33
Non-susceptible	60.5	67
<i>Smokeless tobacco susceptibility (non-dippers only)†</i>		
Susceptible		9.4
Non-susceptible		90.6

\* Changes significant at  $p < 0.05$ .

† Not measured in 2004.

#### 4B.4 Exposure to secondhand smoke and household smoking behaviors

About one in five youth report that there is someone in their home who smokes cigarettes (Table 4B.4a).

**Table 4B.4a: Household smoking behaviors and health issues (2009)**

Question	% Yes
<i>Other than yourself, does anyone who lives in your home smoke cigarettes?</i>	22
<i>Of those responding "yes" to the above question: How many people in your house, not including you, are smokers?</i>	%
1	63
2	26
3	8
4 or more	3
	<b>% Yes</b>
<i>Do you have asthma or other severe breathing problems?</i>	15

Youth reports of household smoking rules are shown in Table 4B.4b. The percentage of youth reporting that there are no rules about smoking in their homes has decreased over time, while the percentage of youth reporting that smoking is not allowed in the house has increased. The changes in the distribution of household smoking rules are statistically significant, and indicate a positive trend in limitations on smoking in NC youths' home settings.

**Table 4B.4b: Household smoking rules over time (2004 and 2009)**

Question	%*	
	2004	2009
<i>What are the rules about smoking in your home?<sup>†</sup></i>		
People can't smoke in the house	72.8	79.9
People can smoke only in certain rooms of the house	6.1	4.3
There are no rules about smoking at home	20.5	13.1

\* Percentages do not add to 100 because of an "other" category.

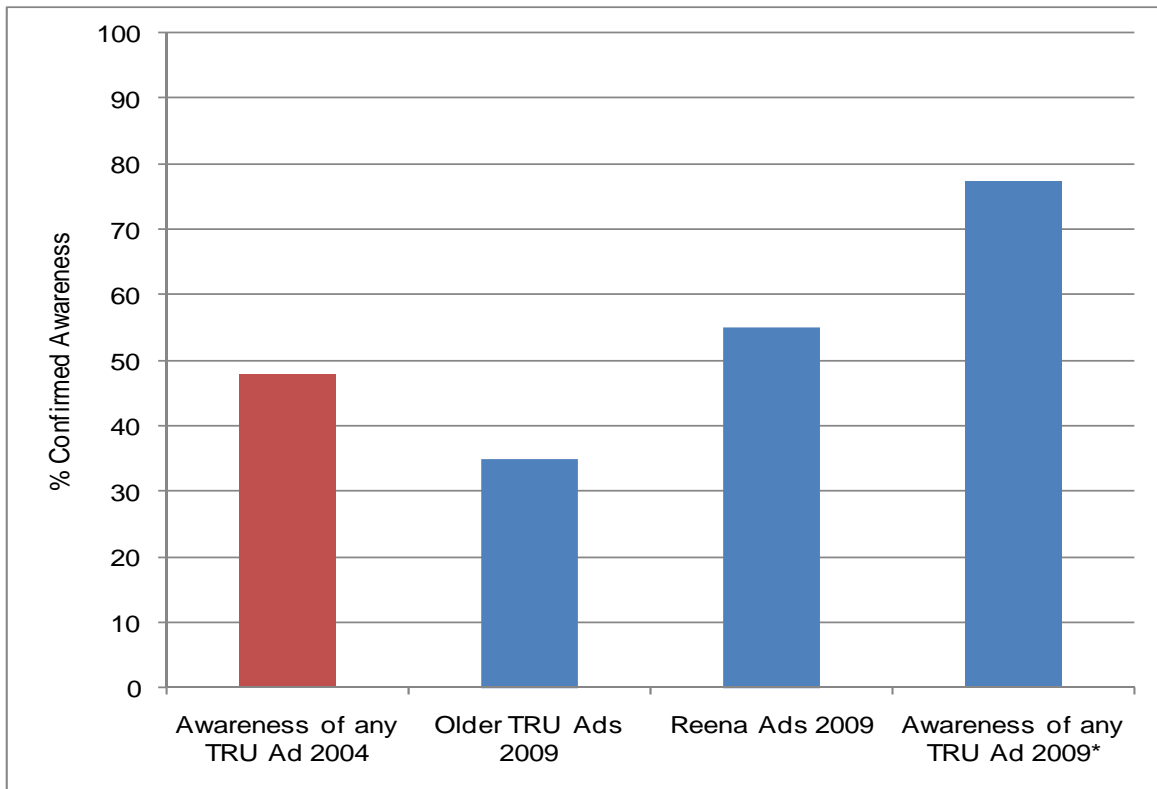
<sup>†</sup> Changes are significant at p<0.0001

## 4C. Campaign Effects

### 4C.1. Campaign awareness

Confirmed awareness of the TRU ads (awareness of at least one TRU ad) among NC youth has increased significantly over the first five years of the campaign, from 48% in 2004 to 77% in 2009. The graph below shows awareness levels of each set of ads shown during 2008 and tested in the 2009 survey. Older TRU ads include the *Truth and Consequences* ad featuring Terrie Hall as well as the *Anna and Jacobi* ads, which ran as recently as the first and second quarters of 2008. Youth had lower levels of confirmed awareness for the older ads, which had not been shown for six months prior to the start of the survey. Awareness rates for the new series of *Reena* ads, launched in July 2008, reached 55% in 2009.

**Figure 4C.1: Confirmed awareness of TRU ads by NC youth (2004 and 2009)**

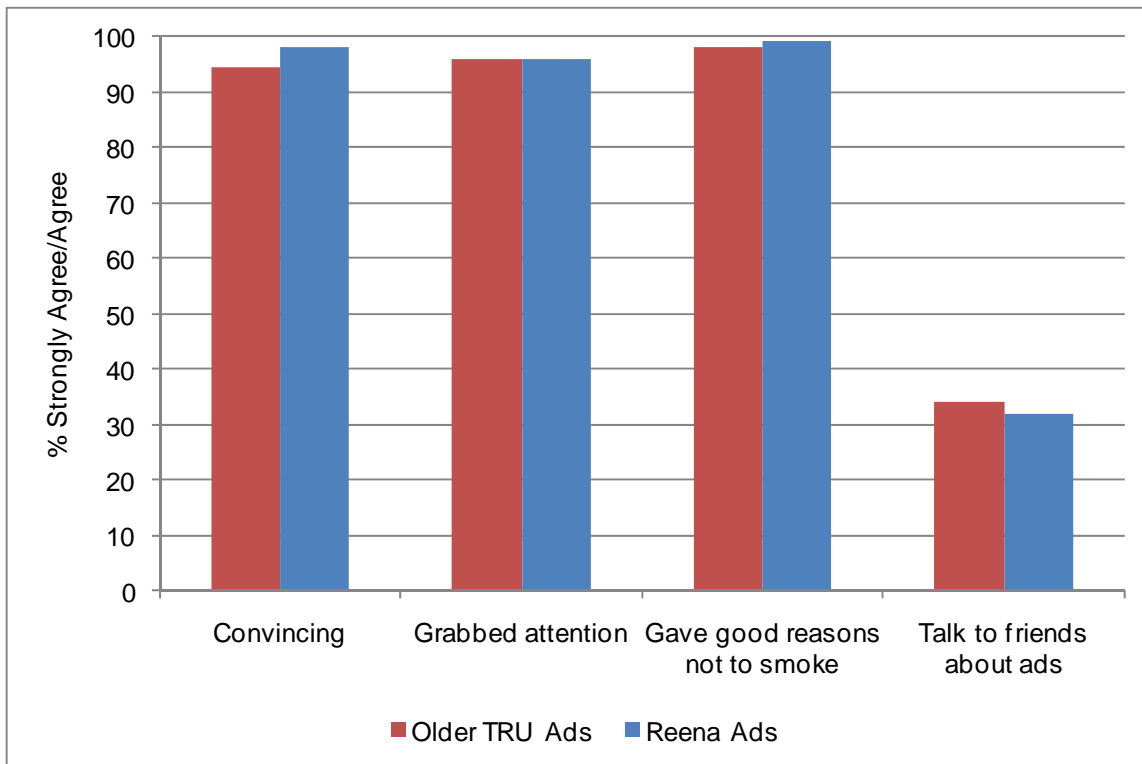


\* Change from 2004 significant at  $p < 0.0001$

#### 4C.2 Ad receptivity

Youth who had seen one or more of the older TRU ads or the *Reena* ads in 2008 reported positive reactions to the ads. Among youth who had confirmed awareness of ads from either of these campaigns (Figure 4C.1), over 94% said the ads were convincing and grabbed their attention (Figure 4C.2). Over 97% of youth with confirmed awareness said that the ads gave them good reasons not to smoke. Just over 30% of youth who had seen the ads reported talking to their friends about them, indicating high “chat value” for the ads.

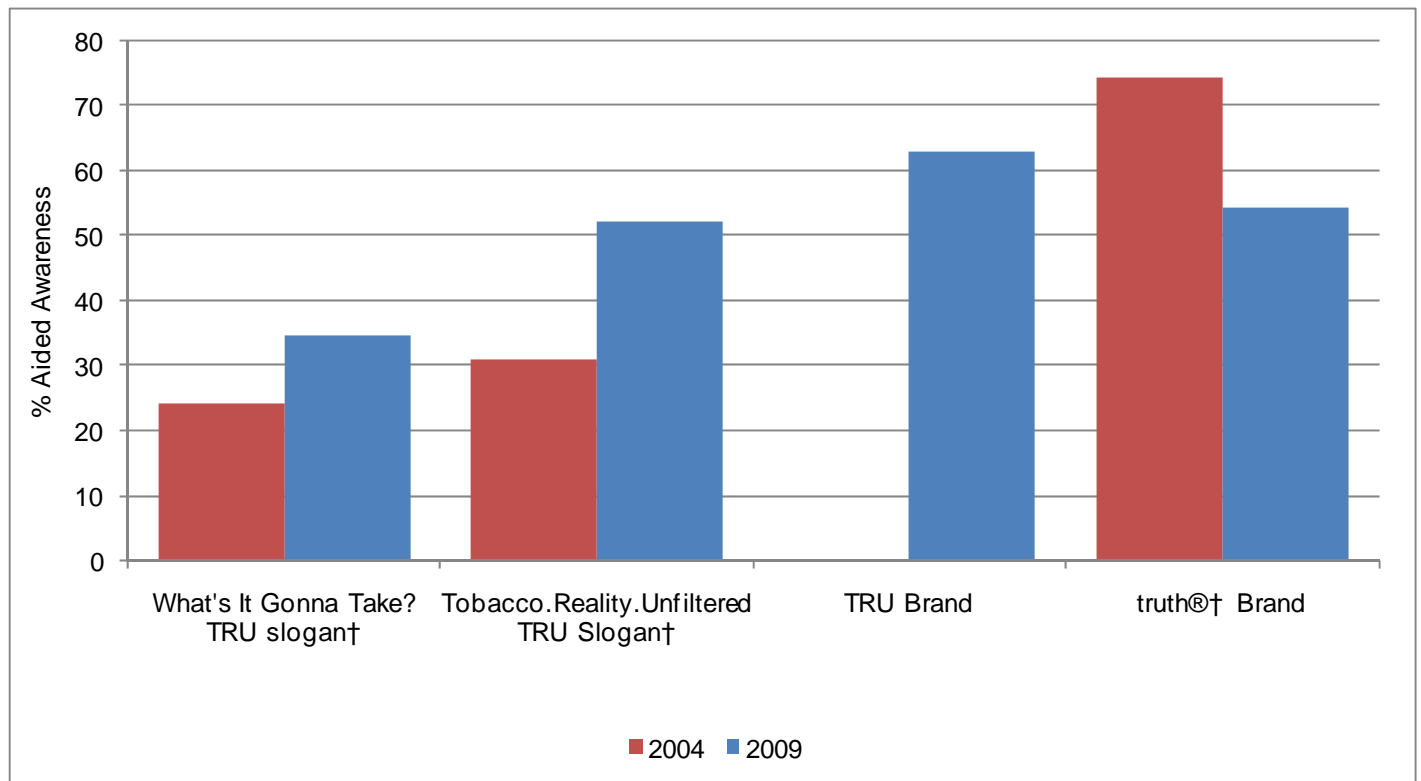
**Figure 4C.2: Reactions to 2008 TRU ads among NC youth with confirmed ad awareness**



### 4C.3 Brand awareness

Recognition of the two North Carolina specific media slogans (Tobacco.Reality.Unfiltered. and What's It Gonna Take?) increased significantly between 2004 and 2009 (Figure 4C.3). Awareness of the North Carolina TRU brand reached 63% in 2009. The TRU brand is now the most widely recognized anti-tobacco media brand among North Carolina youth, surpassing recognition of the national truth® brand, which was significantly lower in 2009 than 2004.

**Figure 4C.3: NC youth awareness\* of anti-tobacco campaign themes or slogans (2004 and 2009)**



\* Aided awareness  
†Changes significant at  $p < 0.0001$   
© National Legacy Campaign

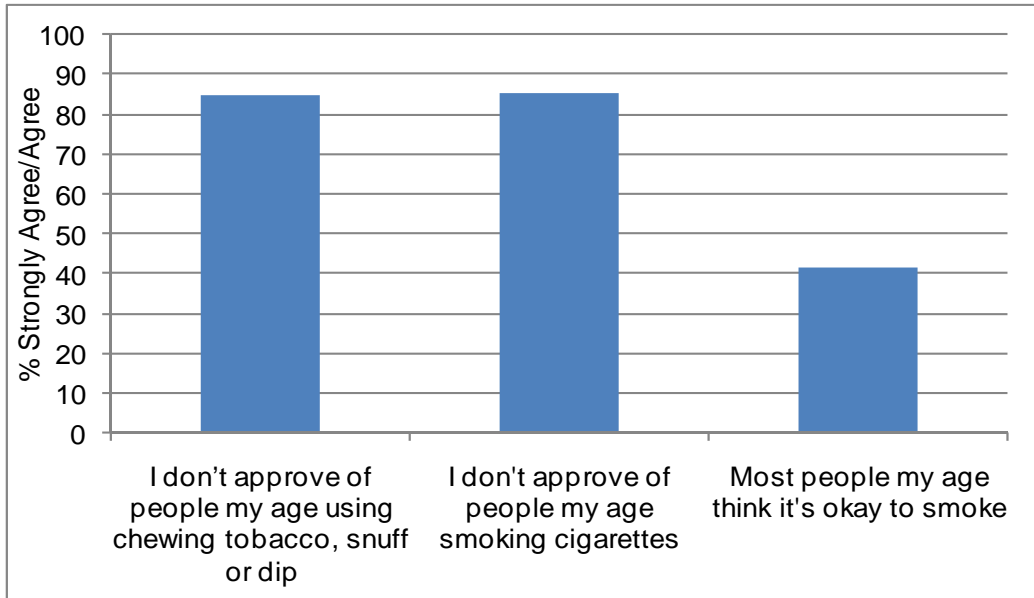


## 4D. Youth Attitudes

### 4D.1 Youth attitudes toward tobacco use

Youth attitudes against smoking remain strong in 2009, with over 80% of youth indicating disapproval of smoking and smokeless tobacco use among their peers. Despite these strong anti-tobacco attitudes, more than 40% of youth still report believing that their peers think it is okay to smoke. Comparison data from 2004 are not available for these attitude measures.

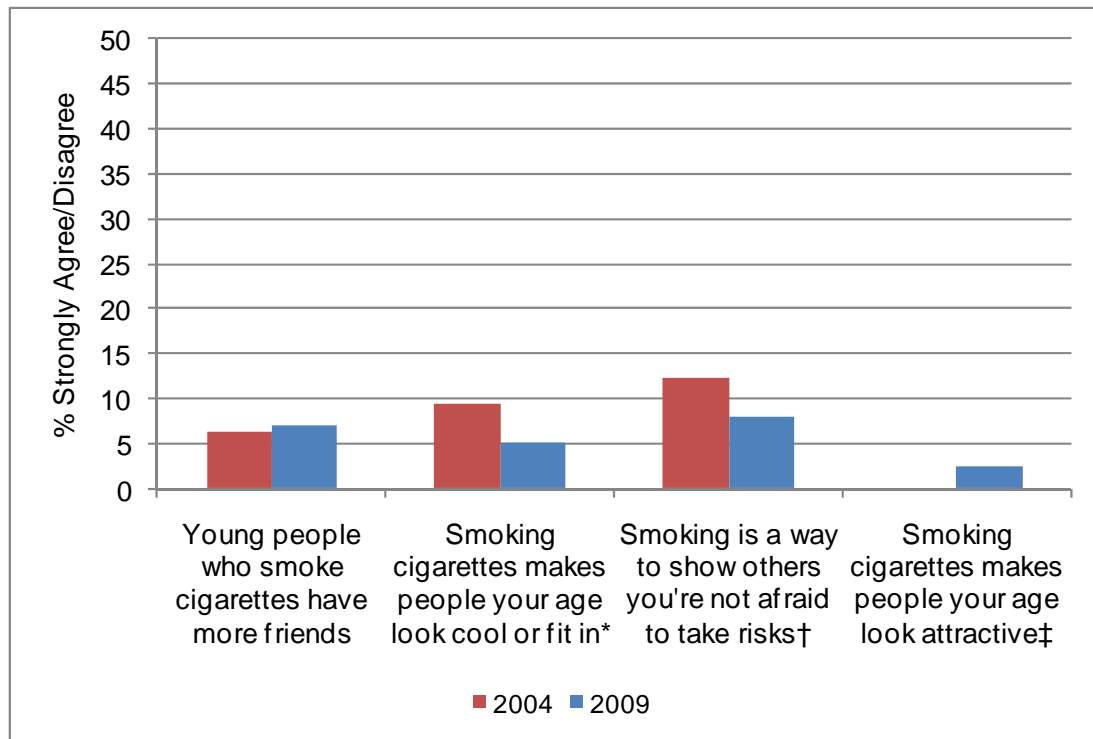
**Figure 4D.1: NC youth attitudes towards tobacco use (2009)**



#### 4D.2 Social acceptability of smoking

Youth disapproval of tobacco use by their peers (Figure 4D.1) is reflected in beliefs about the social acceptability of smoking, which have been consistently strong since 2004 (Figure 4D.2). In 2009, compared to 2004, significantly fewer youth believe that smoking makes young people look cool or fit in or that smoking is a way to show others you are not afraid to take risks. Less than 10% of youth believe that young people who smoke have more friends or that smoking makes young people look attractive.

**Figure 4D.2: NC youth views on social acceptability of cigarette smoking (2004 and 2009)**

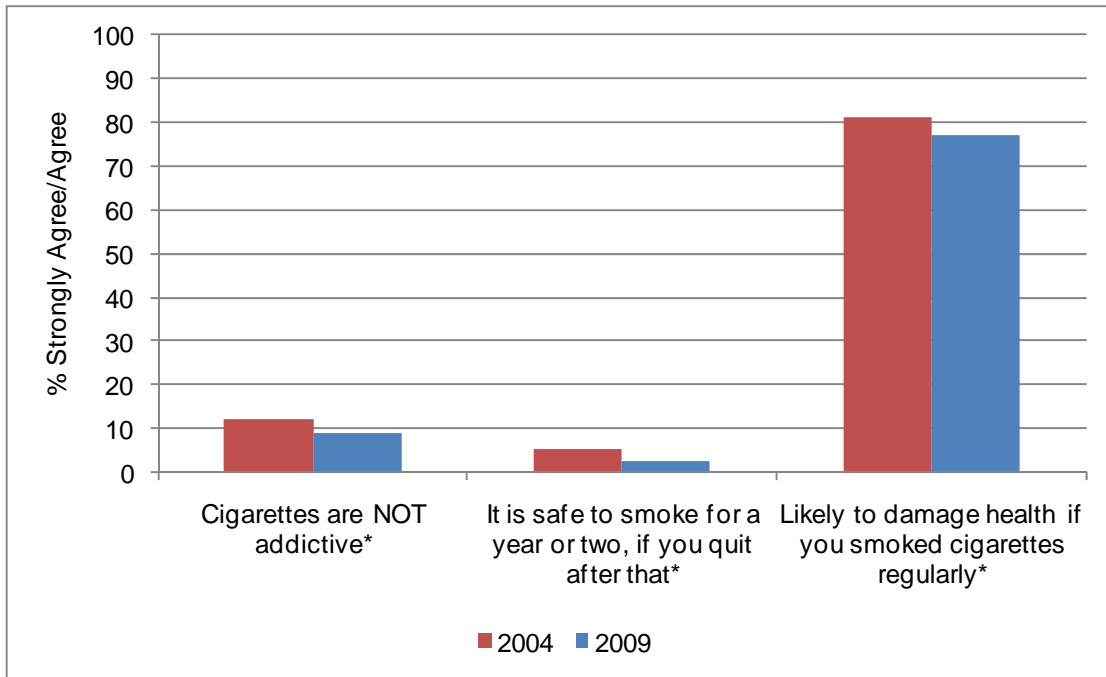


\*Differences significant at  $p < 0.0001$   
 †Differences significant at  $p < 0.005$   
 ‡Not asked in 2004

#### 4D.3 Belief about harms of smoking

Compared to 2004, in 2009 significantly fewer youth reported believing that cigarettes are not addictive and that it is safe to smoke for only a year or two if you quit after that, indicating a strengthening of belief in the health harms associated with smoking. However, a smaller percentage of youth agreed that smoking cigarettes regularly is likely to damage one's health in 2009 than in 2004.

**Figure 4D.3: NC youth beliefs about harms of smoking (2004 and 2009)**



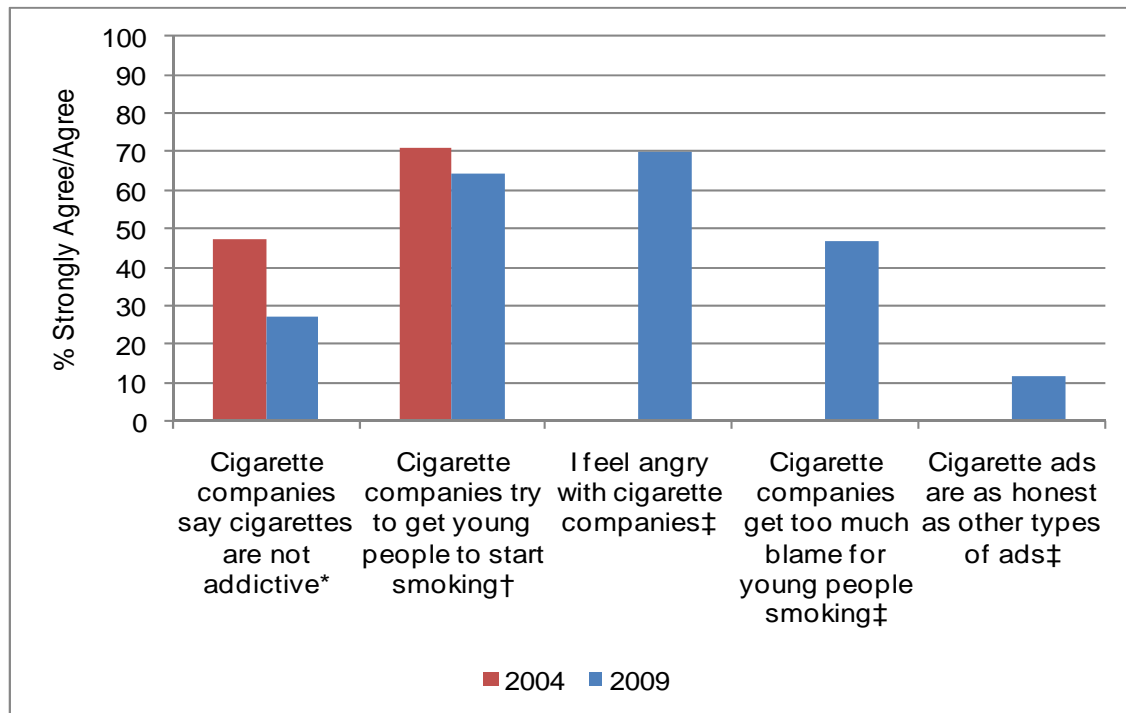
\*p<0.05

#### 4D.4 Youth attitudes about tobacco industry and receptivity toward tobacco advertising

Youth expressed negative attitudes toward the tobacco industry, with over 60% believing that cigarette companies try to get young people to smoke and expressing angry feelings toward cigarette companies. Over 60% of youth do not believe that cigarette companies get too much blame for youth smoking.

Youth in North Carolina remain heavily exposed to cigarette advertising, with nearly 90% reporting they have seen cigarette ads in stores they have visited in the past 90 days. NC youth have strong feelings about the honesty of cigarette advertisements, with less than 10% reporting they believe that cigarette ads are as honest as other types of ads.

**Figure 4D.4: NC youth attitudes toward the tobacco industry (2004 and 2009)**



\*Changes significant at  $p < 0.0001$

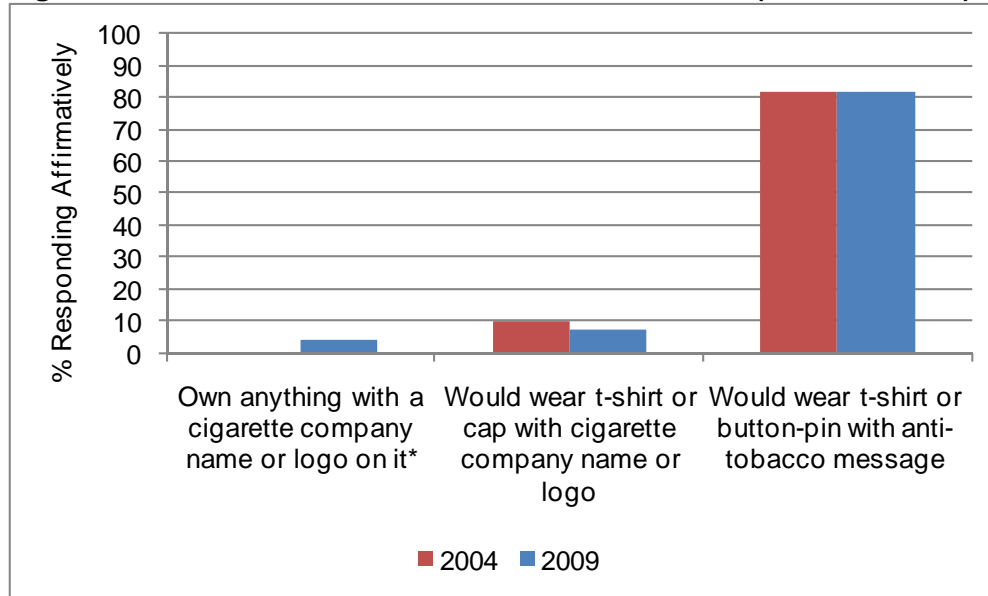
†Changes significant at  $p < 0.05$

‡Not asked in 2004

#### 4D.5 Youth interest in tobacco branded or anti-tobacco branded merchandise

Few youth report owning something with a cigarette company logo on it, or report that they would wear something with a cigarette company name or logo on it. The great majority (82%) of youth said they would wear something like a t-shirt or button-pin with an anti-tobacco message on it.

**Figure 4D.5: Tobacco and anti-tobacco merchandise (2004 and 2009)**

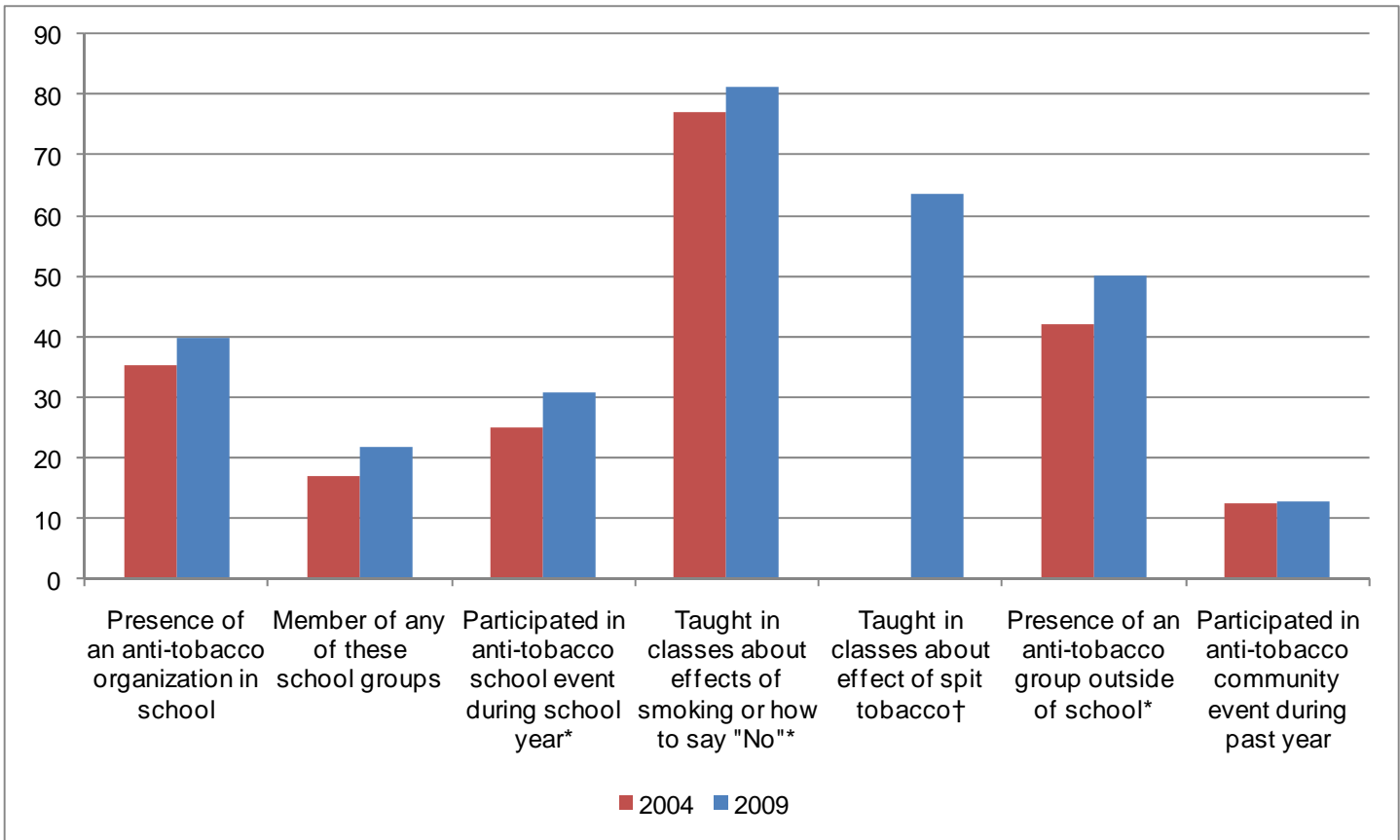


\*Not asked in 2004

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

Youth knowledge of and participation in school and community-based anti-tobacco organizations and events has increased since 2004, with significant increases in the percentage of youth who have participated in an anti-tobacco event at school or report having anti-tobacco groups in their communities outside of school. Nearly 40% of youth reported the presence of an anti-tobacco group at their school, and over 20% of those youth were members of those groups. Over 80% of youth reported being taught about smoking and how to say “no” in classes, while fewer (63%) reported learning about spit tobacco.

**Figure 4E: NC youth involvement in anti-tobacco organizations, classes, or events (2004 and 2009)**

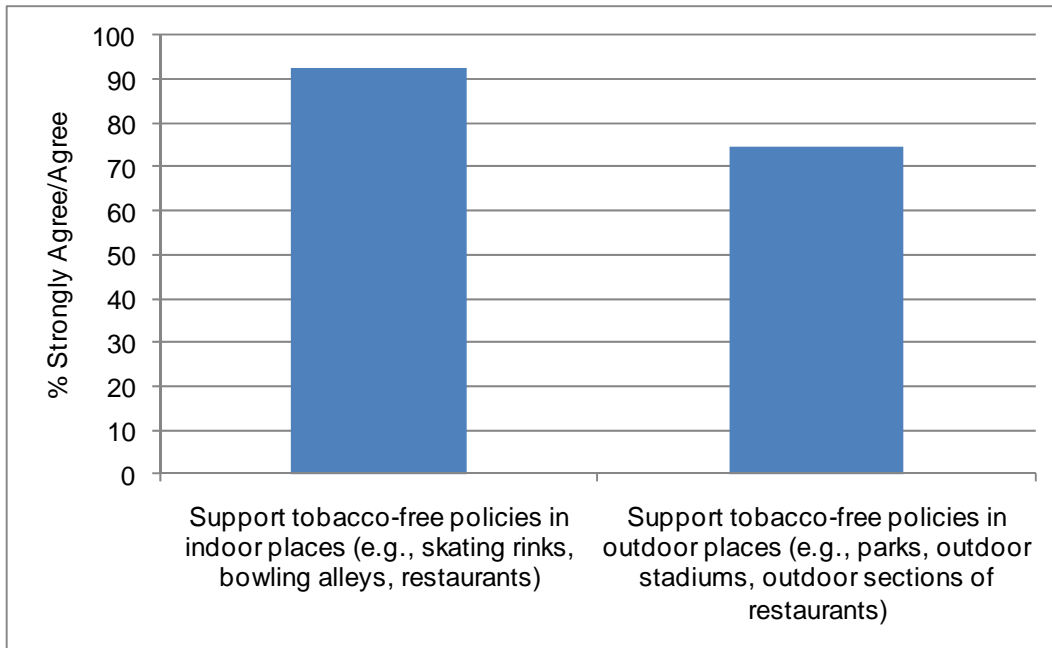


\* p<0.05  
 † Not asked in 2004

#### 4F. Youth Support for Tobacco-Free Policies

Youth support for tobacco-free policies is very strong, with over 90% of youth supporting smoke-free policies in indoor places they frequent, such as skating rinks, bowling alleys, or restaurants. Over 70% extend support for smoke-free policies to outdoor places they frequent, such as parks, outdoor stadiums, and outdoor areas of restaurants

**Figure 4F: NC youth support for tobacco-free policies (2009)**



#### 4F. Factors Relating to Awareness of the TRU Media Campaign

Three statistical models show associations between TRU media campaign awareness outcomes and predictor variables. In the first model (4F.1), the likelihood of being aware of any TRU media campaign ad is predicted by two variables: higher hours of TV watched per day and displaying sensation seeking behavior.

**Table 4F.1: Odds Ratios Showing the Likelihood of Being Aware of any TRU Media Campaign Ad**

Predictor Variables	Odds Ratios		
	Estimate	95% CI Lower Limit	95% CI Upper Limit
Hours of TV watched	1.05	1.02	1.08
Low sensation seeking behavior	0.71	0.55	0.93

The second model (Table 4F.2) shows that the likelihood of recognizing the TRU campaign brand is predicted by two variables: older age and reporting the presence of an anti-tobacco organization in the youth's school.

**Table 4F.2: Odds Ratios Showing the Likelihood of Recognizing the TRU Brand**

Predictor Variables	Odds Ratios		
	Estimate	95% CI Lower Limit	95% CI Upper Limit
Age	1.35	1.04	1.74
Presence of an anti-tobacco organization in school	1.44	1.11	1.87

The third model (Table 4F.3) shows that the likelihood of recognizing the TRU campaign slogan, *Tobacco.Reality.Unfiltered.*, is predicted by six variables: older age, Caucasian race, higher hours of TV watched per day, displaying sensation seeking behaviors, and reporting membership in an anti-tobacco organization at school.

**Table 4F.3: Odds Ratios Showing the Likelihood of Recognizing the Tobacco.Reality.Unfiltered Slogan**

Predictor Variables	Odds Ratios		
	Estimate	95% CI Lower Limit	95% CI Upper Limit
Age	1.53	1.17	2.0
Caucasian race	1.34	1.03	1.76
Hours of TV watched	1.03	1.0	1.05
Low sensation seeking behavior	0.79	0.62	0.99
Members of an anti-tobacco organization in school	1.9	1.19	3.01



#### 4G. Factors Relating to Smoking Experimentation and Susceptibility

Two statistical models show associations between tobacco use outcomes and predictor variables. In the first model (Table 4G.1), susceptibility to smoking was predicted by seven variables: Caucasian race, displaying sensation seeking behaviors, having friends who smoke, living with someone who smokes, believing that youth smoking is more socially acceptable, and reporting less negative feelings and attitudes about tobacco companies.

**Table 4G.1: Odds Ratios Showing the Likelihood of Being Susceptible to Smoking**

Predictor Variables	Odds Ratios		
	Estimate	95% CI Lower Limit	95% CI Upper Limit
Caucasian race	1.87	1.35	2.61
Low sensation seeking behavior	0.43	0.32	0.59
Having friends who smoke	1.49	1.2	1.85
Living with someone who smokes	1.47	1.02	2.12
Believe youth smoking is not socially acceptable	0.22	0.14	0.34
Feel angry with tobacco companies	0.79	0.63	1.0
Believe tobacco companies try to get young people to start smoking	0.78	0.63	0.97

The second model (Table 4G.2) shows factors associated with youth report of experimenting with smoking. Six factors were associated with reported experimentation: older age, displaying sensation seeking behaviors, having friends who smoke, living with someone who smokes, believing youth smoking is more socially acceptable, and believing it is safe to smoke for only a year or two if you quit after that.

**Table 4G.2: Odds Ratios Showing the Likelihood of Reporting Experimentation with Smoking**

Predictor Variables	Odds Ratios		
	Estimate	95% CI Lower Limit	95% CI Upper Limit
Age	3.65	1.84	7.23
Low sensation seeking behavior	0.36	0.22	0.58
Have friends who smoke	1.82	1.48	2.23
Live with someone who smokes	2.4	1.46	3.95
Believe youth smoking is not socially acceptable	0.2	0.1	0.4
Believe it is not safe to smoke for a year or two only	0.65	0.42	0.99

## 5. Discussion

Current research continues to support inclusion of a well-funded, on-going mass media campaign as an important component of a comprehensive tobacco prevention and control program.<sup>6</sup> The TRU media campaign plays an integral role in the school and community-based programs that form the Health and Wellness Trust Fund's Teen Tobacco Use Prevention and Cessation Initiative, and helps ensure that the core message of the Initiative is delivered statewide. The major, overarching goal of this statewide program is to reduce youth tobacco use.

The primary purpose of the TRU campaign evaluation is to examine campaign awareness and ad reactions among North Carolina youth. Findings include ad and brand awareness and ad receptivity, along with youth tobacco use behaviors, attitudes toward smoking and the tobacco industry, knowledge about the health effects of smoking, participation in school and community-based anti-tobacco activities, support for tobacco-free policies, and exposure to secondhand smoke. The 2009 evaluation also compared select outcome data from 2009 to baseline data from 2004, providing a picture of the first five years of North Carolina's TRU media campaign.

**The 2009 TRU media evaluation shows that the TRU media campaign, as currently constructed and executed, remains an integral and successful component of North Carolina's teen tobacco prevention initiative. The TRU campaign has reached record levels of campaign awareness, appears well received by youth, and is preferentially reaching those North Carolina youth at highest risk for future tobacco use. The campaign, combined with state, school and community policies (i.e., increased state excise tax, tobacco-free schools legislation, and community coalition activities), is playing a substantial role in the historically low levels of tobacco use seen among North Carolina middle and high school youth in recent surveys.**

Awareness of the TRU campaign continues to increase, and receptivity to the ads remains strong and positive, indicating that the campaign has accomplished important short term outcomes related to achieving the overarching goal of the TTUPC Initiative (see Appendix). Since the TRU media campaign launched in 2004, youth awareness of campaign ads has significantly increased, from 48% in 2004 to an all time high of 77% in 2009. Other successful state youth tobacco prevention campaigns have reported ad awareness rates of over 80%.<sup>11-13</sup> Achieving similarly high rates is within reach and should be a goal of the 2009-2010 TRU ad campaign. While the independent, long-term impact of the campaign on reducing consumption of tobacco products and susceptibility to using tobacco among NC youth is difficult to pinpoint, the TRU media campaign remains an integral piece of a comprehensive approach to teen tobacco use prevention and cessation (that includes extensive youth community and school-based coalition programs and policy efforts throughout the state).

As new TRU ads were introduced between 2004 and 2009, ad receptivity among youth with confirmed awareness of TRU ads has remained strong and positive. The vast majority of youth reported in 2009 that both the older and new TRU ads aired in 2008 were convincing, attention-grabbing, and gave good reasons not to smoke. Reactions to the *Reena* ads, introduced in 2008, were especially strong, with over 95% of youth reporting that the ads were convincing and attention-grabbing, and 99% reporting that they gave good reasons not to smoke. As the *Reena* series approaches one year of on-air time, it is possible that these ads may soon reach the maximum impact with NC youth in terms of receptivity. New TRU ads, continuing the theme of real North Carolinians sharing stories of the serious health consequences of tobacco use, should be developed and aired to keep the campaign fresh and continue capturing youth attention.

Approximately 30% of youth who saw the 2008 TRU ads reported discussing the ads with their friends, suggesting that social networking continues to be a potentially powerful tool for spreading the TRU prevention message among youth. A third goal of the campaign should be to increase message sharing via social networks by increasing the "chat value" of the ads (the percentage of youth who

report talking to their friends about the ads) to 35% in 2010. Possible strategies for achieving this goal include continuing to integrate TRU media messages into the youth empowerment activities conducted by the TTUPC school and community-based programs and delivering TRU media messages through communication channels that facilitate social networking, such as online youth networking sites or text messaging.

The 2009 TRU Media evaluation also showed impressive gains in youth awareness of the TRU campaign brand and slogans. Awareness of the T-R-U or TRU brand reached 63% in 2009, surpassing recognition of the national truth® campaign brand among NC youth. Youth recognition of the TRU campaign slogans significantly increased between 2004 and 2009, to 35% for *What's it Gonna Take* and 52% for *Tobacco.Reality.Unfiltered*. Higher recognition of brands and slogans associated with the media campaign suggest that the campaign is becoming a more familiar and ingrained part of the media landscape for NC youth. This growing familiarity offers an opportunity for TRU media messages to easily integrate into a wide range of statewide prevention activities and supports the continued inclusion of the TRU media campaign as an important tool in the comprehensive youth tobacco prevention efforts underway in North Carolina.

Youth knowledge about the health effects of smoking and attitudes against smoking have remained strong over time, with an overwhelming majority acknowledging that cigarettes are addictive and that youth can damage their health if they start smoking. This indicates that knowledge of the harmful effects of smoking is strong and, with continued support of the TRU campaign as part of the TTUPC initiative, unlikely to dissipate in the near future.

Youth beliefs about the social acceptability of smoking are somewhat mixed. Only 5% of youth believe that smoking makes youth look cool or fit in, a significant reduction since 2004 (9.5%). Very few youth believe that teens who smoke have more friends (7% in 2009), a belief that has held steady since 2004. Strong majorities (85.5%) of NC youth do not approve of youth smoking, but 41.5% of youth continue to believe that others their age think it is okay to smoke. These mixed results suggest that youth perceptions of the social acceptability of smoking and ideas about social norms related to smoking deserve continued attention as part of the TRU campaign.

Susceptibility to tobacco use is an important indicator of experimentation with smoking and of future smoking. Regression analyses from this evaluation show that youth who engage in sensation seeking behavior and who believe that youth smoking is more socially acceptable are more likely to be susceptible to smoking. Regression analyses also show that the TRU campaign is currently reaching those youth who are at-risk for future smoking. Youth who engage in sensation seeking behaviors and youth who believe that smoking is more socially acceptable are more likely to be aware of the TRU ad campaign and to recognize the TRU campaign slogan, *Tobacco.Reality.Unfiltered*. As an integral part of the comprehensive statewide program to reduce and prevent tobacco use among NC youth, the TRU campaign must continue to target this at-risk population as it develops and delivers new ads.

While youth exposure to secondhand smoke remains high, with 22% of youth reporting that at least one person in their homes other than themselves smokes, there is evidence that positive changes are occurring with regard to household smoking rules. In 2009, compared to 2004, significantly fewer youth report that there are no rules about smoking in their homes (13% vs. 20%) and significantly more youth report that smoking is not allowed in their homes (80% vs. 73%). Environmental influences and the modeling of smoking behaviors are important risk factors for youth tobacco use, and these changes represent important progress towards mitigating these risks. Continued policy efforts to decrease secondhand smoke exposure among all youth remain a critically important outcome.

Youth overwhelmingly support smoke-free policies in areas they frequent, including indoor areas (such as recreational centers and restaurants) and outdoor areas (such as parks and stadiums).

Channeling this support into advocacy for tobacco-free policies has been a critical and successful component of the TTUPC school and community programs. Great progress has been made with recent passage of state legislation mandating 100% Tobacco Free Schools (2007) and prohibiting smoking in certain public places (2009). It is possible that the TRU campaign can support ongoing efforts to expand the reach of smoke-free policies to all areas, as supported by NC youth.

Despite the removal of tobacco advertisements from many outdoor environments, including billboards, for many years, youth exposure to tobacco industry advertising remains too high, with the overwhelming majority of youth reporting exposure to cigarette ads in the previous two months. The majority of youth reported believing that cigarette companies try to get young people to start smoking and report that they feel angry with tobacco companies. The national truth<sup>®</sup> media campaign from the American Legacy Foundation has successfully capitalized on negative youth attitudes toward the tobacco industry. Evaluations of the national truth<sup>®</sup> campaign show that youth respond well to ads directly countering tobacco industry messages, and that the truth<sup>®</sup> campaign was associated with decreases in national smoking prevalence observed between 1999 and 2002.<sup>17,18</sup> State level campaigns that also used anti-industry themes have reported similar positive youth responses.<sup>11-16</sup> While these themes would likely work well with North Carolina youth, the political feasibility of their use in a state campaign remains unlikely for now. Instead, the data support continued grassroots approaches through the school and community-based TTUPC activities to counter tobacco industry influence on NC youth.

Schools remain an important site for tobacco education and anti-tobacco activism, with 40% of youth reporting the existence of an anti-tobacco organization at their school, and 22% of those youth reporting membership in those organizations. Youth participation in school-based anti-tobacco events has increased significantly, from 25% in 2004 to 31% in 2009. Significantly more youth report being taught about the effects of smoking in class in 2009 than in 2004 (81% vs. 77%). While significantly more youth report the existence of anti-tobacco groups in their communities outside of school in 2009 (50% vs. 42%), participation in community anti-smoking events has remained stable over time, with about one-tenth of youth statewide being involved in community events to decrease tobacco use in both 2004 and 2009. A cultural shift in anti-smoking attitudes and behaviors seems to be underway with youth, as evidenced by data from this and other surveys. Comprehensive efforts by TTUPC school and community grantees, and youth experiences with these efforts are likely to build on this shift and contribute over time to substantive socio-normative behavior change.

There are several limitations to the results reported here. The first concerns the use of telephone surveys to assess smoking estimates of teenagers. Research has shown that telephone surveys typically yield lower estimates of tobacco use behavior than school-based, self-administered surveys, such as the NC YTS.<sup>19</sup> It is likely that some youth being interviewed, particularly younger youth, are uncomfortable answering questions related to tobacco use behavior and thus under-report their behaviors. Despite inclusion of questions about whether the youth was alone when completing the phone survey and whether his or her answers would have been different if he/she had been alone, it is difficult to know with certainty to what extent this study offers conservative estimates of youth tobacco use behaviors. However, for the purposes of tracking the media campaign, a telephone survey is highly reliable and cost-effective.

A second limitation is related to the measurement of confirmed awareness for the TRU ads. Two separate questions were used to measure awareness of 1) older TRU ads aired in early 2008 and 2) new TRU ads featuring Reena aired in the second half of 2008. Youth who indicated they had seen these ads were asked to describe the ads. Details from youth descriptions provided a measure of "confirmed awareness." Many youth gave descriptions that were not sufficiently detailed to determine if the youth was describing older ads featuring Terrie Hall or newer ads featuring Reena Roberts (e.g., many youth gave descriptions such as, "it was the woman with the hole in her throat from smoking"). As such, the awareness rates reported here may underestimate the actual awareness of the two

separate series of TRU ads. However, this measurement problem does not affect the overall rate of awareness of any TRU ad, which reached all time high levels in 2009.

A third limitation is that the 2009 TRU media evaluation survey utilized a cross-sectional design, which does not allow for demonstration of causality (e.g., showing a direct link between awareness of the TRU campaign and strong anti-tobacco attitudes). However, using this design allowed for comparison with baseline data gathered in 2004, providing valuable information about changes in attitudes, campaign awareness, and other key outcomes over the first five years of the campaign.

The TRU Media Campaign continues to use best practices guidelines for constructing, refining, and delivering effective messages. Youth awareness of this campaign has increased significantly over the first five years, likely associated with large funding increases. Continued evaluation of the campaign will complement program initiatives and provide insight into campaign growth and new directions. To build on these gains and maximize campaign awareness, the TRU media campaign should continue to be funded at levels similar to or increased from the 2008-2009 campaign. *New ads using the same theme of the serious health consequences of tobacco use should be developed, targeted to youth most at-risk for smoking, and aired on a consistent basis to continually capture youth attention.* As a critical tool in the comprehensive effort to reduce teen tobacco use in North Carolina, the TRU media campaign should continue integrating with statewide school and community programs.

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## Appendix: Logic Model for TRU Media Campaign

