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NC Health & Wellness Trust Fund

2007 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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For more information about the NC Tobacco. Reality. Unfiltered.
Media Campaign Evaluation, please contact:

Tobacco Prevention and Evaluation Program

University of North Carolina at Chapel Hill

School of Medicine

Department of Family Medicine

CB #7595, Manning Drive

Chapel Hill, NC 27599

T: 919-843-9751

F: 919-966-9435

Web: www.fammed.unc.edu/TPEP

Email: tpep@med.unc.edu

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1. Executive Summary

North Carolina's Teen Tobacco Use Prevention and Cessation Initiative, funded by the NC 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 and is evaluated using telephone surveys with a cohort of NC youth. After a baseline survey in early 2004, follow-up surveys to examine the impact of the campaign took place later in 2004 and in 2006. These evaluations showed favorable youth reaction to and increasing youth awareness of the campaign. The HWTF subsequently increased the budget for the TRU media campaign in the fall of 2006 to \$4.5 million annually, an increase of about \$3 million. The 2007 TRU media evaluation began four months after the funding increase.

Highlights from the evaluation of the 2007 TRU media campaign include:

- + Youth awareness of the TRU campaign increased by nearly one-third from 2006 to 2007.
 - o Awareness of the campaign rose from 54% in 2006 to 71% in 2007.
 - o Over 500,000 youth (11-17) in NC have seen and are aware of the NC TRU campaign.
- + Awareness of TRU campaign brands and slogans rose substantially from 2006 to 2007.
 - o Youth awareness of the TRU brand rose from 42% in 2006 to 58% in 2007.
 - o Youth awareness of the *Tobacco.Reality.Unfiltered* slogan increased from 48% in 2006 to 55% in 2007.
- + NC youth responded positively to the ads run in 2007.
 - o More than 95% of NC youth who had seen the 2007 ads reported that they were convincing, attention-grabbing, and gave good reasons not to use tobacco.
 - o Over 25% of NC youth reported that they talked to their friends about the ads, indicating high "chat value".
- + Anti-tobacco and pro-health attitudes among NC youth have remained stable and strong.
 - o Over 90% of NC youth did not believe that young people who smoke cigarettes had more friends, that smoking cigarettes made youth look cool or fit in, or that smoking made youth look attractive.
- + The majority of youth continue to be exposed to cigarette advertising and believe that cigarette ads portray smoking as acceptable or "cool".
- + Most youth support tobacco-free policies in places they frequent, including schools, indoor places such as restaurants, and outdoor areas such as parks.

The 2007 evaluation also notes:

- + Current research continues to support inclusion of a mass media campaign as an important component of North Carolina's comprehensive tobacco prevention and control program.
- + One-third of NC youth remain susceptible to smoking. While the long-term impact of the TRU campaign on this population is inconclusive, the TRU campaign, as part of a comprehensive program, must continue to target this group of at-risk youth.
- + For the TRU media campaign to continue to move in the right direction in constructing and delivering effective messages that best impact NC youth, it should aim to:
 - o Increase campaign awareness by 2008 to over 80% (a rate close to levels seen in other successful state campaigns).
 - o Develop and air new ads to continue to capture youth attention. (Current ads may have reached their maximum impact in terms of receptivity among NC youth.)
 - o Increase ad "chat value" (the percentage of youth that report talking to their friends about the ads) from the current rate of 25% to 30%.
 - o Continue to integrate the TRU campaign with community and school programs to maximize campaign effectiveness. (2007 data indicate that at least one-fourth of youth participated in a school or community event in the last year to prevent tobacco use.)

2. Introduction

Tobacco use is the leading cause of preventable death in the United States and in North Carolina.¹ Most tobacco users start as youth. 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, 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 rate of decline has slowed nationally in recent years.³

In North Carolina, the 2005 Youth Tobacco Survey (YTS) 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.⁴ The next North Carolina YTS will be conducted in the fall of 2007.

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 initiative received funding of \$15 million annually for 2005 and 2006, and the HWTF increased funding for the initiative to \$17 million a year in 2007.⁵ Following CDC guidelines for comprehensive programs to reduce youth smoking⁶, 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 campaign at \$1.7 million for 2005-2006.⁷ In the fall of 2006, the annual funding level was increased to \$4.5 million.

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 report on best practices in youth tobacco prevention ads compiled by the University of North Carolina Tobacco Prevention and Evaluation Program.⁸ This report suggested that an effective mass media campaign in North Carolina could include true stories told by real people in North Carolina about the serious health consequences of tobacco use, projecting 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 by the media vendors around NC, also featuring youth telling stories about loved ones suffering serious health consequences from tobacco use. *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*, 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 from spit tobacco use.

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

The 2006 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 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, 2005, and 2006, as well as the first quarter of 2007, ads appear in Table 2A..

Table 2A: Gross Ratings Points for 2004-06 and 2007, Q1 TRU Ads

Market	Total GRPs			
	2004	2005	2006	2007, quarter 1
Asheville	N/A	481	1,312	869
Charlotte	5,800	1,535	2,627	1,411
Greensboro/Winston-Salem	4,200	1,451	2,985	1,262
Greenville/New Bern	3,400	1,605	2,280	1,129
Raleigh/Durham	3,600	1,484	3,790	1,482
Norfolk (NC counties)	1,000	388 spots	1384 spots	547 spots
Myrtle Beach (NC counties)	1,800	N/A	N/A	N/A
Wilmington	3,400	1,313	2,089	742
TOTAL (excluding Norfolk)	22,200	7,869	15,083	6,895 (quarter 1 only)

As shown in the table, with the funding increase in late 2006, the 2007 campaign appears on track to be the largest campaign yet, if quarter 1 dosage remains similar or higher in quarters 2 through 4.

Major outcomes measured through 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 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.

Finally, youth are asked about their reaction to the ads they say they have seen. 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 or use chewing tobacco, and whether they would talk to their friends about the ads.

This report provides evaluation results of the 2006 TRU television campaign. Prior evaluations of earlier phases of this campaign are available at http://fammed.unc.edu/TPEP/tru_media.htm.

3. Methods

The media vendor created ads for the *Tobacco.Reality.Unfiltered.*, or TRU, media campaign using best practices reports and focus group studies. While the long-term goal of the media campaign is to prevent youth 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 aired on teen-friendly channels such as the CW, 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 conducted baseline and follow-up interviews with a cohort of NC youth to assess tobacco use, attitudes toward tobacco use, and awareness of anti-tobacco media campaigns.

The baseline survey (T1) was conducted in March and April of 2004, which preceded 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) took place immediately following the fall flight of the 2004 media campaign. The T2 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 in early 2006, 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 of new North Carolina specific anti-tobacco ads; comparison to national ads; and attitudes and receptivity to tobacco advertising.

The fourth wave of the survey (T4) took place in March and April of 2007 and assessed these same areas, as well as an added domain of support for tobacco-free policies. The methodology reported here refers to the T4 data collection period.

Eligibility for participation in T4 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 older by the T4 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 to T3 data are based on population counts for 11-17 year old teens living in NC, not those 18 or older. Specifically, weights could not be produced for this group without losing comparability to the previous three rounds of data collection. Therefore, cross-sectional weights were provided as part of the T4 dataset to allow for direct comparisons between rounds to determine, for example, if smoking rates changed or if attitudes toward smoking changed.

The sample design for T4 is classified as a stratified, multi-round longitudinal study with supplementation. Stratification was based on a dual-frame sample design used at all data collection points 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, nonworking telephone number, respondent otherwise unreachable); refusals to participate in follow-up calls; and baseline respondents who had aged-out so that 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 2,831 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 657 sample phone numbers targeting households with one or more residents 11-17 years of age (inclusive). Stratification and proportionate allocation to strata were done in the same way as the RDD frame.

There were 670 follow-up numbers available for calling at T4 data collection. One-hundred and four cases were pulled out and treated separately to determine whether they had 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

Classification	Numbers Used
In cohort since T1	387
Entered study at T3	283
Supplementation at T4	6,379
<i>Total</i>	7,049

At the end of calling, there were 707 completed interviews. The breakdown is provided in Table 3A.2.

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

Classification	Completes	Refusals	Ineligibles	Not Screened	Totals
In cohort since T1	252	67	68	0	387
Entered study at T3	172	73	38	0	283
Supplementation at T4	283	227	4,963*	906	6,379
<i>Total</i>	707	367	5,069	906	7,049

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

The overall response rate was 57.4% as given by the standards set by the American Association for Public Opinion Research. A breakdown of response rates is given in Table 3A.3.

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

Classification	Response Rate	Joint RR
In cohort since T1	79.0%	34.5% (From Baseline to T4)
Entered study at T3	70.2%	38.1% (From T3 to T4)
Supplementation at T4	47.6 %	
Total	57.4 %	

Statistical Analysis

All data were analyzed using SAS survey procedures to account for both complex survey designs (e.g. stratification) and sampling weights. Descriptive data analysis was performed on selected variables. Results are presented as frequencies.

4. Results

4A. Demographics

Since the data are weighted to the US Census tract, demographic characteristics reflect those of youth in the state. Table 4A summarizes gender, age, and race.

Table 4A: Demographics (T4)*

Variable	%
<i>Gender</i>	
Male	50
Female	50
<i>Age</i>	
11	7
12	19
13	18
14	14
15	15
16	12
17	14
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 Questions

4B.1 Tobacco use

Behaviors related to tobacco use are shown in Table 4B.1. Although behavioral changes are not statistically significant, they do appear to be moving in the right direction with decreases in current cigarette and chewing tobacco use, as well as a decreased proportion of youth who report that they have ever tried either tobacco product.

Table 4B.1: Tobacco use behaviors (T1-T4)

Behavior	% Yes			
	Time 1	Time 2	Time 3	Time 4
Ever used any tobacco product	*	*	17	14
<i>Cigarettes</i>				
Ever tried cigarette smoking, even 1 or 2 puffs	16	18	14	12
Current cigarette smoking	3	6	5	3
<i>Chewing tobacco, snuff, or dip</i>				
Ever used chewing tobacco, snuff, or dip	*	*	5	4
Current use of chewing tobacco, snuff, or dip	*	*	2	1

* Not asked at T1 or T2.

4B.2 Desire to quit

Of the 3% of youth in the sample who were current smokers at T4, a little over half (56%) reported wanting to quit. This compares to over 80% of youth smokers at T3 who reported wanting to completely stop smoking. One possible explanation is that some youth who reported wanting to stop smoking at T3 did quit in the past year. (The T3 smoking rate was 5%.)

4B.3 Susceptibility to smoking

Susceptibility to smoking is a 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?

Susceptibility of tobacco use for the sample shows that among non-smokers at T1, 37% of the sample was susceptible to tobacco use (Table 4B.3). The percentage susceptible at T4 was similar at 35%. Susceptibility to smokeless tobacco has stayed fairly constant in the past year, at 11% for T3 and 12% at T4.

Table 4B.3: Susceptibility for tobacco use (T1-T4)

Susceptibility	%			
	T1	T2	T3	T4
<i>Smoking susceptibility (non-smokers)</i>				
Susceptible	37	39	34	35
Non-susceptible	63	61	66	65
<i>Smokeless tobacco susceptibility (non-dippers only)</i>				
Susceptible	*	*	11	12
Non-susceptible	*	*	89	88

* Not asked at T1 or 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 (Table 4B.4a). This is consistent with T3 data.

Table 4B.4a: Household smoking behaviors and health issues (T4)

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	23
3	6
4 or more	7
	% Yes
<i>Do you have asthma or other severe breathing problems?</i>	13
<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. The percentage of youth who report that smoking is not allowed in their homes has remained relatively stable, though the proportion reporting that there are no rules about smoking in the home appears to be decreasing over time.

Table 4B.4b: Household smoking rules over time (T1-T4)

Question	%*			
	T1	T2	T3	T4
<i>What are the rules about smoking in your home?</i>				
People can't smoke in the house	73	76	75	75
People can smoke only in certain rooms of the house	6	6	7	6
There are no rules about smoking at home	20	16	15	13

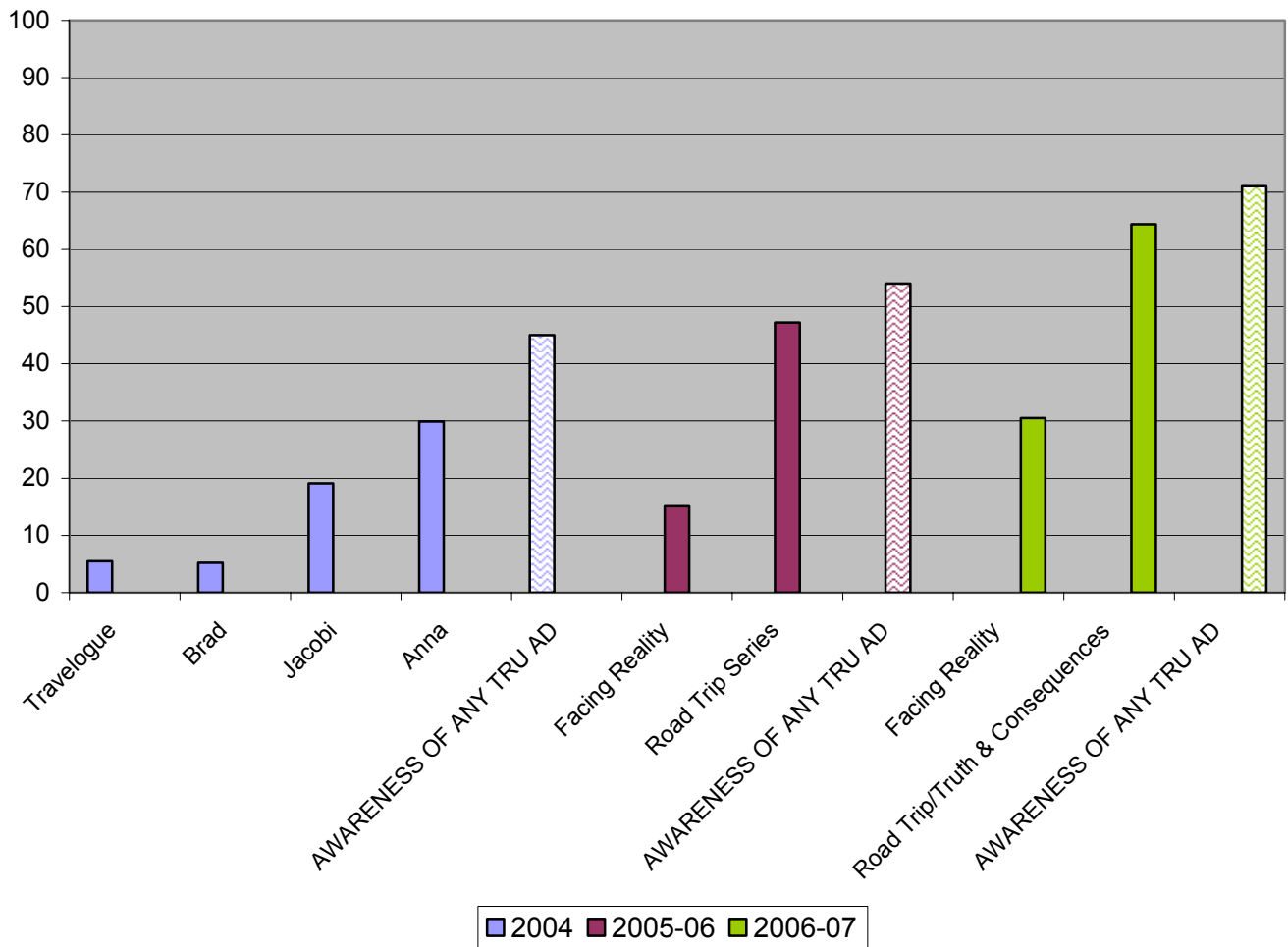
* Percentages do not add to 100 because of an “other” category.

4C. Campaign Effects

4C.1. Campaign awareness

Confirmed awareness for the TRU ads (awareness of at least one TRU ad) increased from 54% in 2005-06 to 71% in 2006-07 among NC youth (a 31% increase). The chart below indicates awareness for individual ads, followed by a total rate of awareness for any TRU ad for each year of the campaign. Both awareness of individual ads or series of ads, as well as overall campaign awareness rates, have increased steadily since 2004. The effect of campaign awareness on tobacco use or susceptibility is indeterminate.

Figure 4C.1: Confirmed awareness of TRU ads by NC youth (T2-T4)



4C.2 Ad receptivity

Youth who had seen one or more TRU ads at T4 responded positively to the ads. Of the youth who had confirmed awareness of the individual ads (Figure 4C.1), over 94% reported that the 2006 ads, the TRU Road Trip Series, including *Truth and Consequences* (Terrie Hall), and *Facing Reality* (Gruen) grabbed their attention, and over 95% found these ads convincing (Figure 4C.2). Nearly 100% of youth surveyed said these ads gave good reasons not to use tobacco. Over 25% of youth who have seen the ads reported that they talked to their friends about the ads. This receptivity is at or above prior year results.

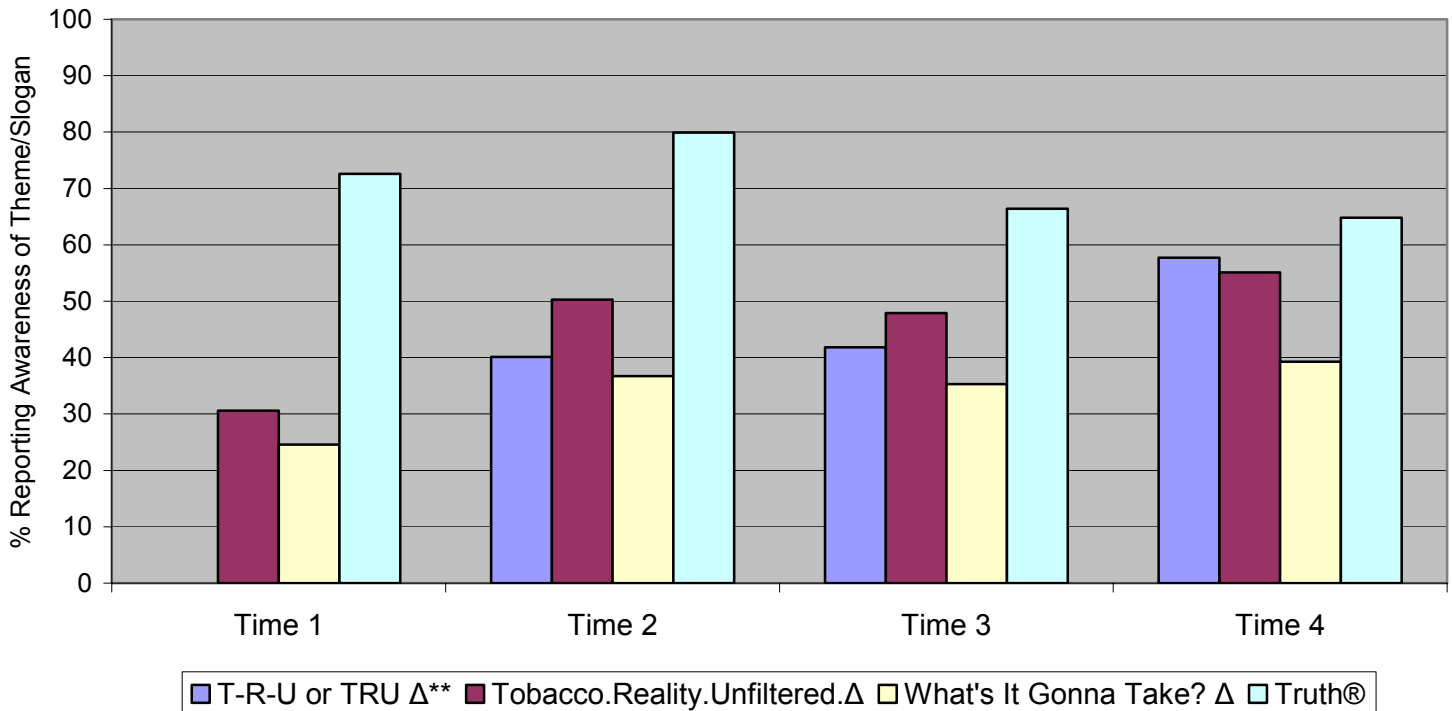
Figure 4C.2: Reactions to TRU ads among NC youth with confirmed awareness (T4)



4C.3 Brand awareness

Recognition of the three North Carolina specific media brands/slogans (*TRU*, *Tobacco.Reality.Unfiltered.*, and *What's it gonna take?*) increased from T3. The slogan *What's it gonna take?* increased by 11% (from 35% to 39%), and *Tobacco.Reality.Unfiltered* increased 15% (from 48% to 55%). The TRU brand increased by 38% (from 42% to 58%). While recognition of North Carolina specific media brands and slogans is still less than the national truth® campaign (which has been airing since 2000 and had an awareness rate of 65% at T4) the difference in awareness rates between North Carolina and national campaigns is lessening.

Figure 4C.3: NC youth awareness* of anti-tobacco campaign themes or slogans (T1-T4)



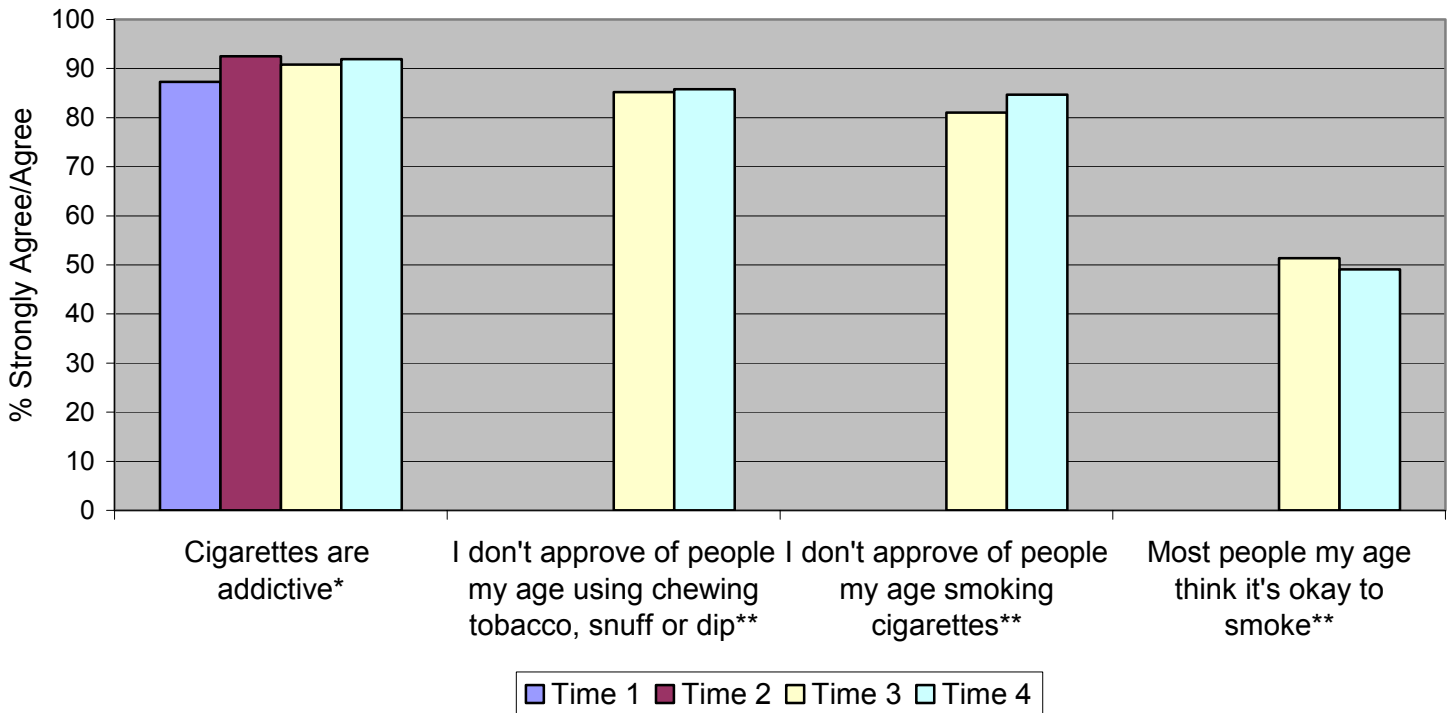
* Aided Awareness
 © National Legacy Campaign
 Δ NC TRU Media Campaign
 ** Not asked at T1

4D. Youth Attitudes

4D.1 Youth attitudes toward smoking

Youth attitudes against smoking remain very strong from T1 to T4, with over 90% of youth stating that cigarettes are addictive and approximately 85% saying that they did not approve of their peers using cigarettes or spit tobacco. However, nearly half of youth still believe that their peers think it is okay to smoke.

Figure 4D.1: NC youth attitudes towards harm or approval of tobacco use (T1-T4)



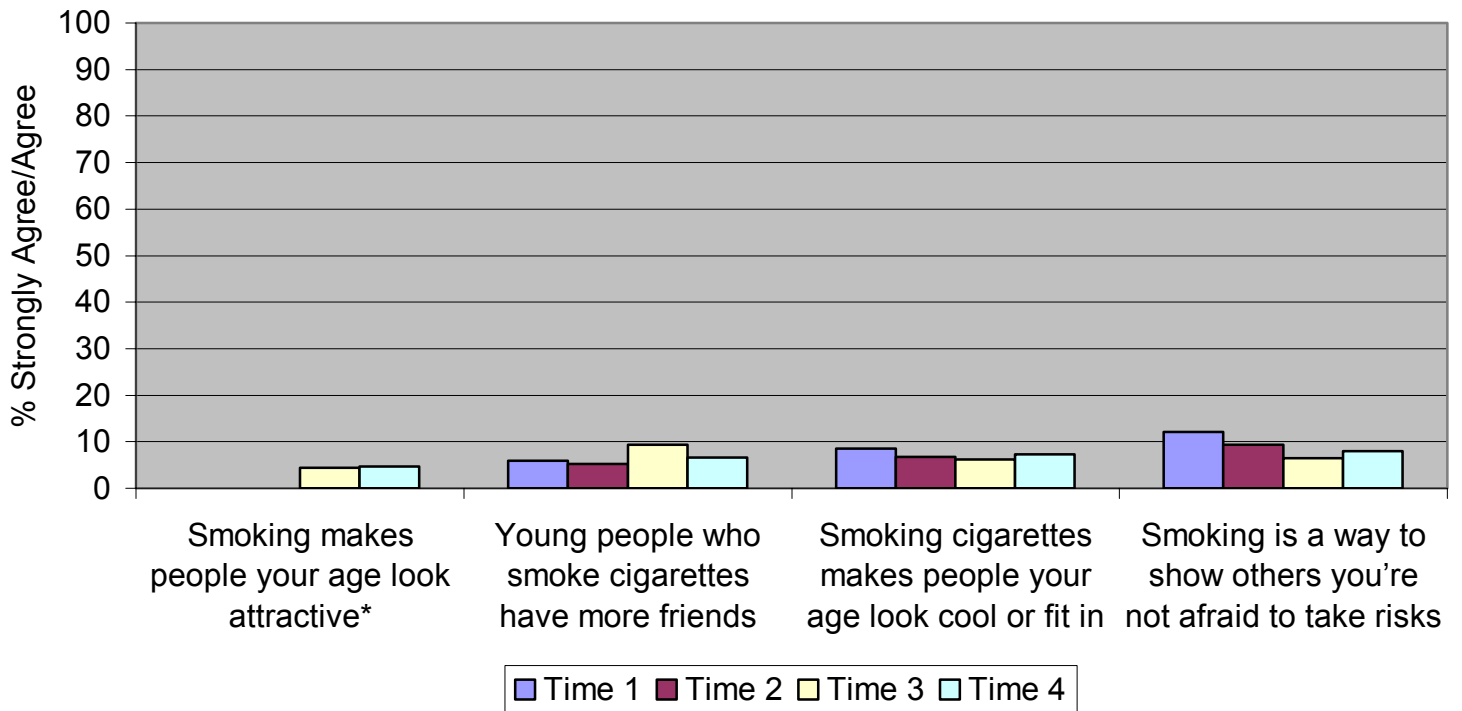
* Question asked in Times 1-3 as "Cigarettes are not addictive"

**Not asked at T1 or T2

4D.2 Social acceptability of smoking

The social acceptability of cigarette smoking among NC youth is mixed (Figures 4D.1 and 4D.2). While very few youth believe that smoking makes youth look attractive or cool, or that smoking shows one is not afraid to take risks, nearly 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.2: NC youth views on social acceptability of cigarette smoking (T1-T4)

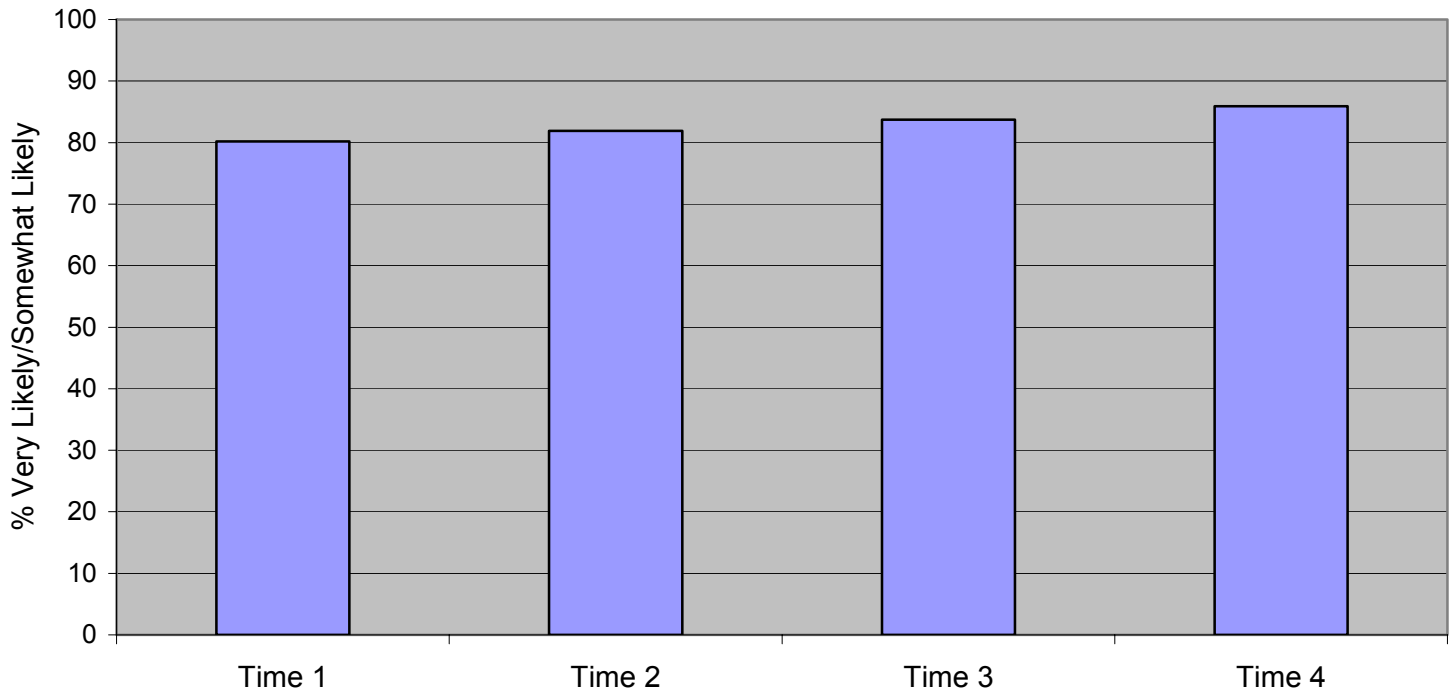


*Not asked at T1 or T2

4D.3 Belief about harms of smoking

NC youth continue to show strong beliefs (over 80%) that their health would be damaged if they started smoking. This belief is consistent across all four time periods and may be increasing over time.

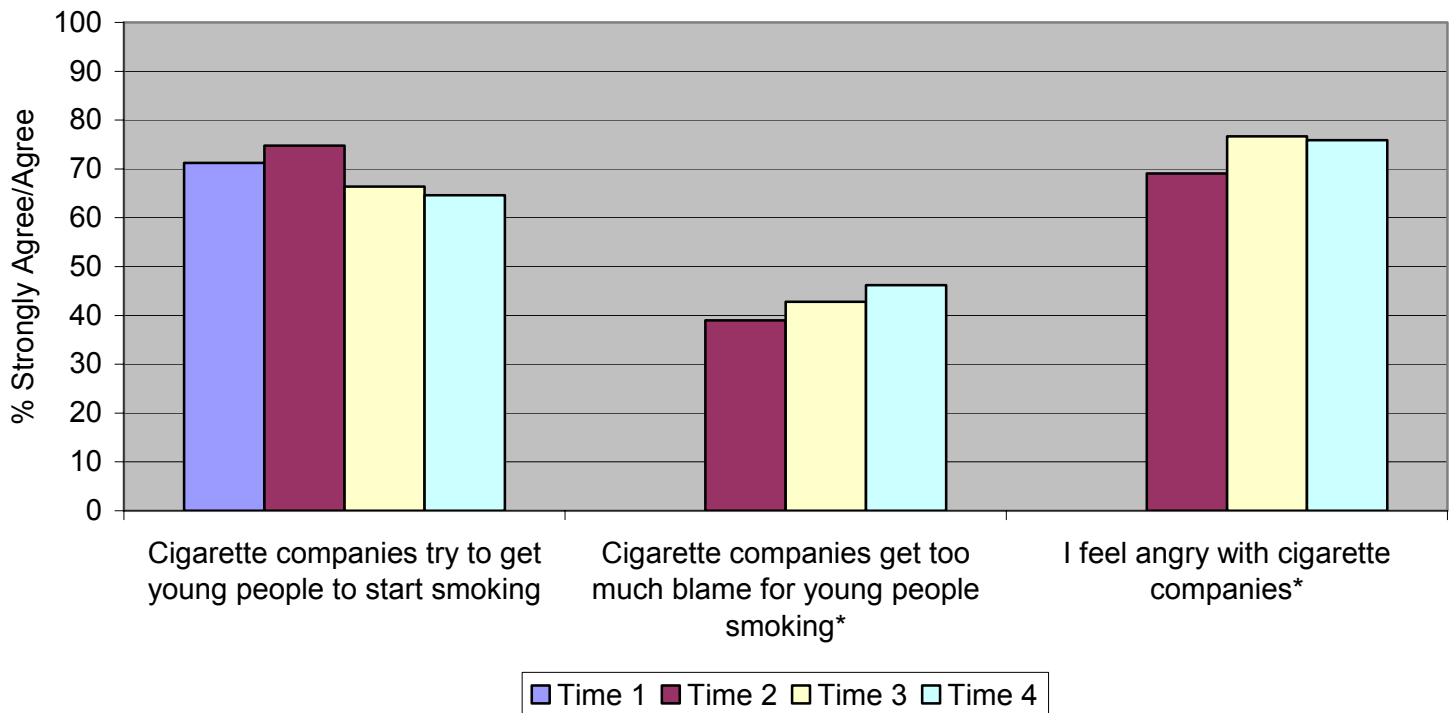
Figure 4D.3: NC youth's beliefs about likelihood of damaging health if start smoking (T1-T4)



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

A majority of youth continue to voice strong negative reactions to cigarette companies as they relate to youth smoking. As seen in Figure 4D.4a, nearly two-thirds of youth at T4 expressed beliefs that cigarette companies try to get young people to smoke, and three-fourths of youth at T4 expressed anger toward cigarette companies.

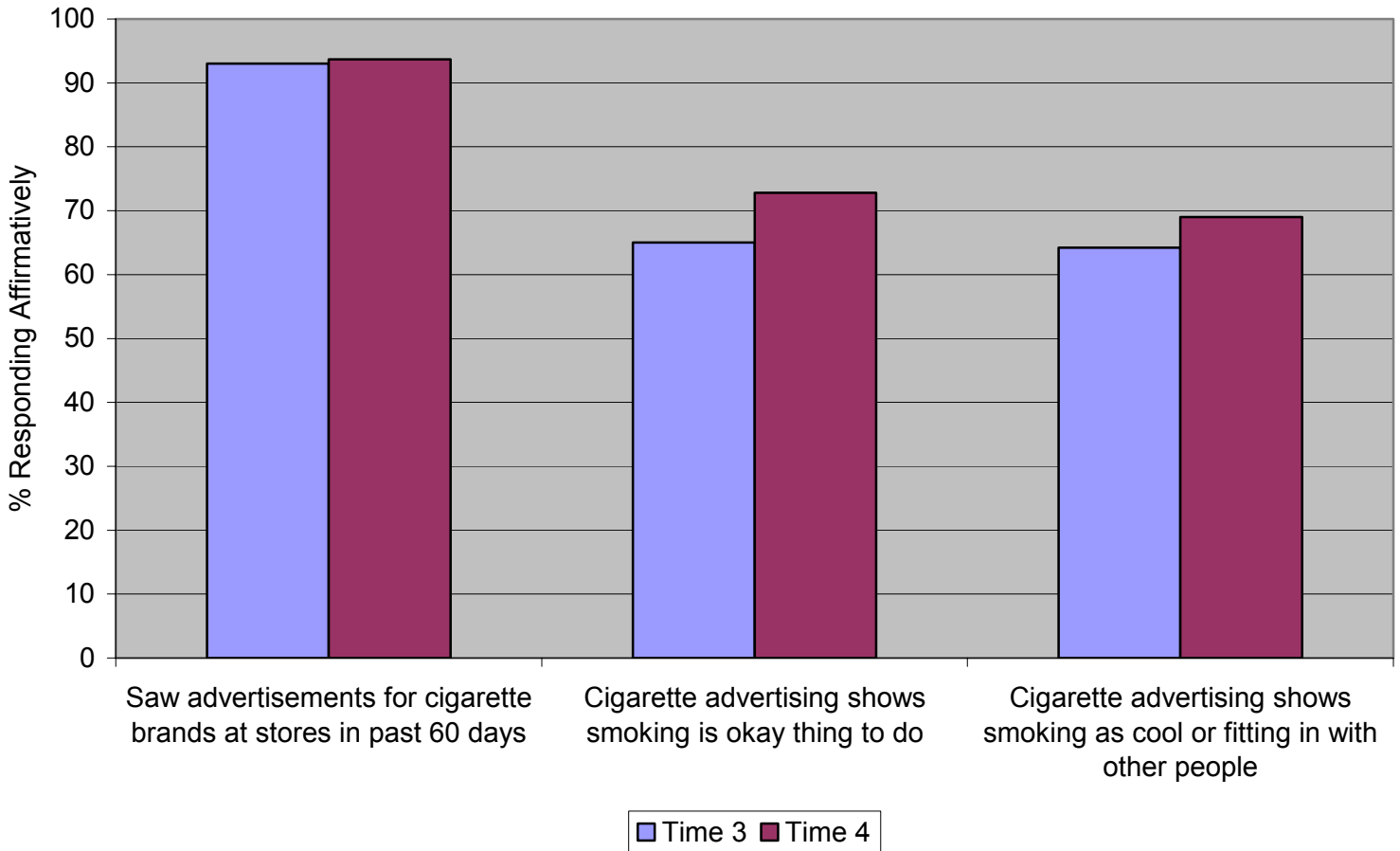
Figure 4D.4a: NC youth attitudes toward the tobacco industry (T1-T4)



*Not asked at T1

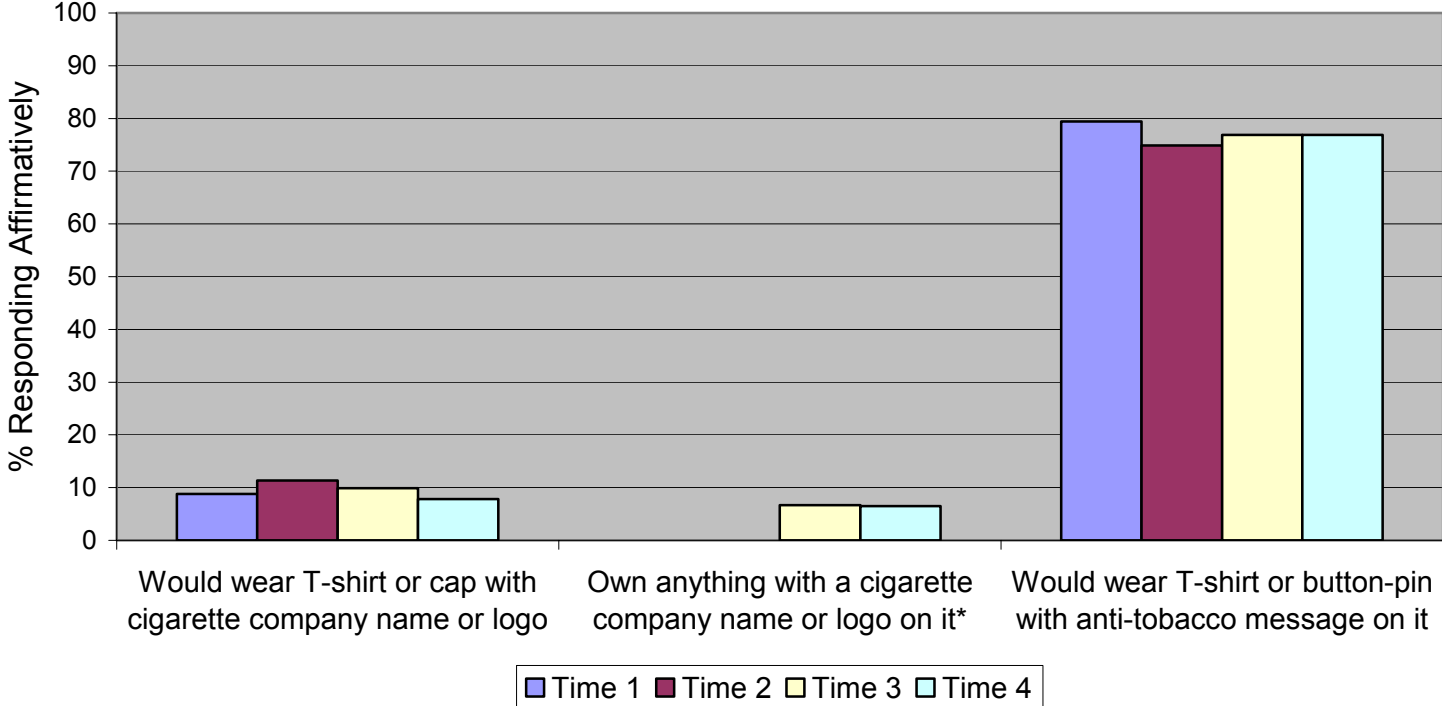
Cigarette promotions and advertisements continue to reach youth in North Carolina. As seen in Figure 4D.4b, over 90% of youth in the sample reported seeing advertisements for cigarette brands in nearby stores during the past 60 days. Approximately 70% think that cigarette advertising shows that smoking is okay or cool.

Figure 4D.4b: Exposure to tobacco advertising and message content (T3-T4)



While 8% of youth reported that they would wear a T-shirt or cap with a cigarette company name or logo, 77% of youth responded that they would wear something like a T-shirt or button-pin carrying an anti-tobacco message.

Figure 4D.4c: Tobacco and anti-tobacco merchandise (T1-T4)

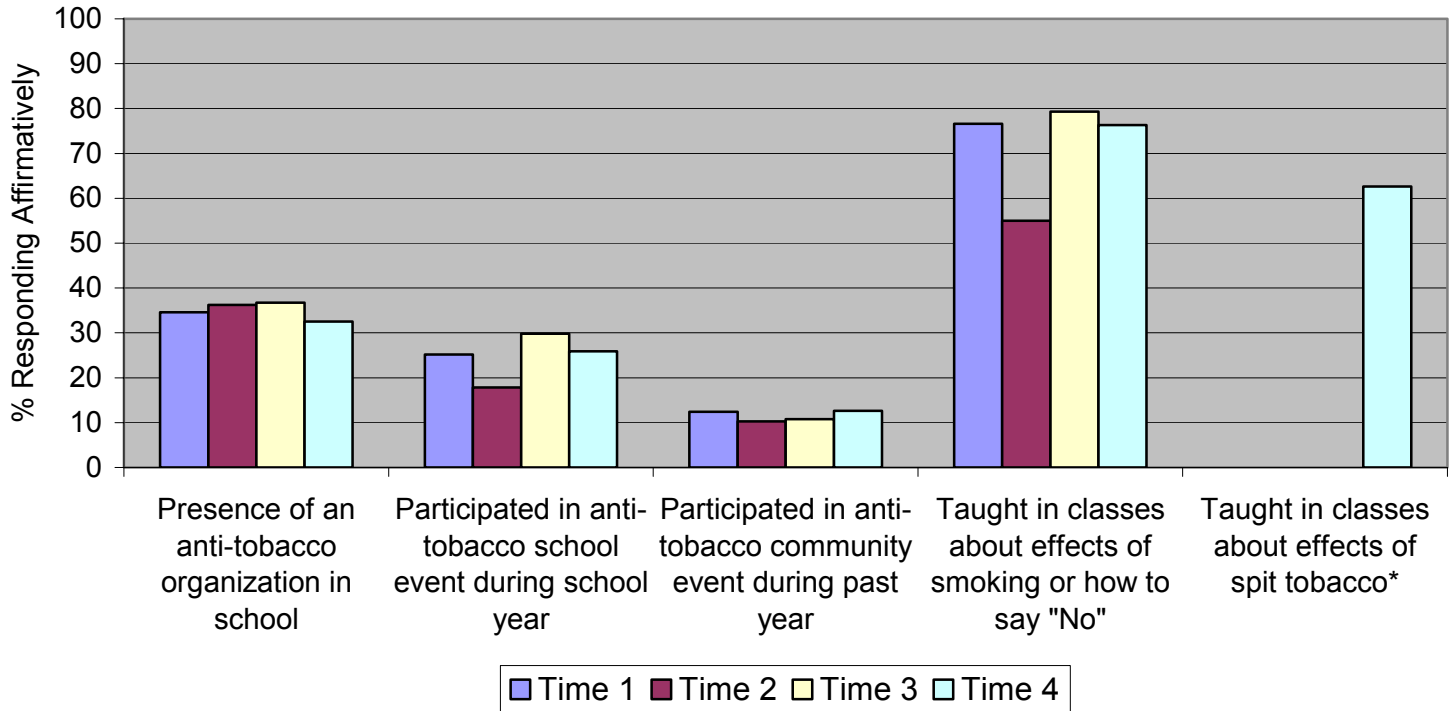


**Not asked at T1 or T2

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

Nearly one-third of the youth surveyed were aware of an anti-tobacco organization in their school and over one-fourth had participated in an anti-tobacco event at their school. About 13% had participated in an anti-tobacco community event. Over three-fourths of youth reported being taught about smoking or 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 (T1-T4)

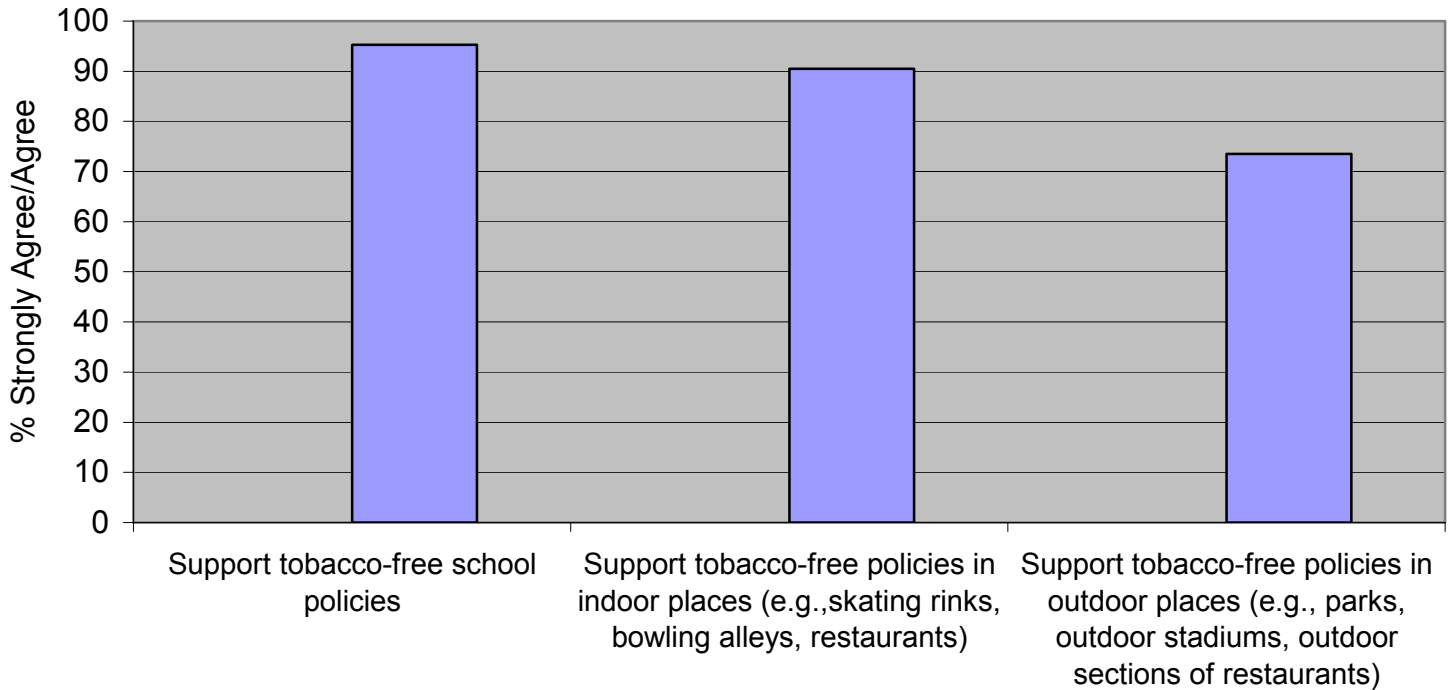


* Not asked at T1-T3

4F. Youth Support for Tobacco-Free Policies

Youth support for tobacco-free policies is very strong, with over 95% supporting tobacco-free policies in schools so that no one, not students, teachers, staff, or visitors, can smoke or use other tobacco products on school grounds at any time (Figure 4F). Ninety percent of youth support indoor places where they go, such as skating rinks, bowling alleys, or restaurants, being completely smoke-free, and nearly three-fourths support outdoor areas where they go (such as parks, outdoor stadiums, or the outdoor areas of restaurants) prohibiting all smoking.

Figure 4F: NC youth support for tobacco-free policies (T4)



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.⁹ The TRU media campaign has an integral role alongside the community and school-based programs that form the Health and Wellness Trust Fund's Teen Tobacco Use Prevention and Cessation Initiative. The major, overarching goal of this statewide program is to reduce youth tobacco use. The 2005 NC Youth Tobacco Survey (YTS) demonstrated that the rate of decline for current smoking among youth was higher from 2003-2005 than it was from 2001-2003⁴, and this change in rate of decline coincided with the comprehensive efforts launched by HWTF.

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 attitudes toward smoking, tobacco use behaviors, exposure to secondhand smoke and household smoking behaviors, participation in school-based anti-tobacco activities, attitudes about tobacco industry advertising, and support for tobacco-free policies.

Youth awareness of the TRU campaign continues to grow. The current awareness rate of 71% translates to over 500,000 youth (11-17) in NC having seen and recognized the NC TRU campaign. While the increasing awareness rate is encouraging, a goal for the 2007-08 campaigns should be to increase awareness to over 80%, a rate that would approach levels seen in other successful state campaigns.^{10, 11}

Ad receptivity among those who saw one or more TRU ads remains 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 use tobacco. While current ads are very well-received, they may have reached their maximum impact in terms of receptivity among NC youth, with some ads having played in NC for two years. New ads should be developed and aired more frequently in order to continue to capture youth attention.

Since a quarter of youth who saw the ads reported they had discussed them with their peers, the health information in the ads continues to have the capacity to spread to other youth through social networking. To increase this social networking, a second goal of the campaign should be to increase the current "chat value" (the percentage of youth who report talking to their friends about the ads) from 25% to 30% in 2008.

Youth knowledge about 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 unlikely to dissipate in the near future with continued support of the TRU campaign and the teen initiative.

The social acceptability of cigarette smoking among NC youth remains mixed. Very few youth believe that smoking makes one look attractive or cool, and the majority of youth in this study said they do not approve of others their age using tobacco. Still, nearly half believe others their age think it is all right to smoke. This outcome may change with continued airing of the TRU Campaign and other programs of the initiative.

While awareness and receptivity to the TRU Campaign continue to increase, the long-term impact of the campaign on reducing consumption of tobacco products or susceptibility to using tobacco products among North Carolina youth is more difficult to pinpoint and should continue to be followed. It is important to recognize that campaign awareness reached higher levels only within this past year,

that the media campaign is part of a comprehensive approach that includes extensive coalition activities occurring statewide, and that the intensity of the dose is still less than what some other states have used.^{12, 13} As part of the comprehensive statewide program to reduce and prevent tobacco use among youth in North Carolina, the TRU Campaign must continue to target at-risk youth. Since having best friends who smoke is a significant predictor of experimentation with tobacco products, decreases in tobacco use are likely to have a complementary effect on lessening experimentation among non-smokers. The overall reduction seen in tobacco use in the North Carolina Youth Tobacco Survey from 2003 to 2005 is ancillary evidence that the TRU Campaign may be having an additive effect to the other statewide efforts.

Youth exposure to secondhand 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 may be growing. While the percentage of youth reporting that smoking is not allowed in their homes remains constant, fewer youth report 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. 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 their schools, indoor areas (such as recreational centers and restaurants), and even 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 HWTF's school and community programs. It is possible that the TRU campaign can support this work.

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. A majority of youth believe that cigarette advertising continues to portray smoking as making a person "look cool" or "fit 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 toward the tobacco industry. Evaluations of this national campaign, as well as of several state campaigns using an anti-industry theme, also indicate that youth respond well 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 remains unlikely for now. Instead, the data support grassroots approaches by the initiative to try and counter this influence on North Carolina youth.

Schools remain an important site for tobacco education and anti-tobacco activism, with nearly one-third of youth reporting the existence of an anti-tobacco organization at their school, approximately one-fourth involved in anti-tobacco school events, and over three-fourths reporting being taught about the effects of smoking in class. Participation in community anti-smoking events has remained stable over the past three years, with about one-tenth of youth statewide being involved in community events each year to decrease tobacco use. A cultural shift in anti-smoking attitudes and behaviors is likely underway and will be seen over time among youth. Comprehensive efforts by HWTF community and school grantees, as well as youth experiences with such school-based efforts, may contribute over time to substantive socio-normative behavior change.

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.¹⁴ Despite the fact that several questions were included in the survey on whether the youth was alone when answering the questions and whether 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, might have been uncomfortable answering the questions, and thus under-reporting their behaviors. Therefore, this study may be conservative in the estimates of youth smoking 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. The T2 survey occurred six months after T1, while T3 occurred 14 months later, and T4 13 months afterward, making it more difficult to model changes in attitudes or behaviors over time. 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 would have to be a larger sample to capture substantial changes in tobacco use behavior. 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 longer term outcomes such as behavior change.

The TRU Media Campaign continues to use best practices guidelines for constructing, refining, and delivering effective messages. Youth awareness of this campaign is increasing, likely linked to the large increase in funding in 2006. While the campaign's impact on tobacco-related attitudes and behavior cannot be isolated from the larger teen tobacco prevention program in schools and communities statewide, findings of the 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. Continued evaluation of the campaign will complement program initiatives. Gains made in campaign and brand awareness would likely dissipate if frequency or intensity of campaign messages were lessened. To maximize campaign effectiveness, the TRU campaign should continue to integrate with statewide community and school programs to accomplish their common goal of reducing teen tobacco use in North Carolina.

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Appendix: Logic Model for TRU Media Campaign

