

ANNUAL ANALYSIS OF THE EFFECTIVENESS OF
THE NATIONAL YOUTH ANTI-DRUG MEDIA CAMPAIGN

Report to Congress



April 20, 2010

This report was prepared by Dr. Jeanette Shutay, from Jshutay Consulting, Inc.

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Executive Summary

Purpose of the Report

Congress has set forth specific requirements for the evaluation of the National Youth Anti-Drug Media Campaign. Specifically, the Office of National Drug Control Policy Reauthorization Act of 2006 (P.L. 109-469; 21 U.S.C. 1701 *et seq.*) requires the Campaign to be evaluated in two ways.

First, 21 U.S.C. 1708(b)(2)(B) requires testing of all advertisements prior to use “...to ensure that the advertisements are effective and meeting industry-accepted standards.” Specifically, advertising is qualitatively and quantitatively evaluated prior to national airing in order to ensure that specific desired outcomes are achieved by the communication (e.g., strengthening of attitudes, intent to take action) and that no adverse effects are created by the messaging. This formative evaluation process is followed so that immediate feedback may be obtained and incorporated into the Campaign’s continuous improvement efforts. The creative process and the qualitative and quantitative testing of ads are discussed in more detail on page five of the current report.

Second, a two-part requirement set forth in 21 U.S.C. 1708(b)(2)(C) requires an evaluation of the Campaign’s overall effectiveness. Under the first part of that section, the Office of National Drug and Control Policy (ONDCP) Director must:

designate an independent entity to evaluate by April 20 of each year (an Annual Analysis of) the effectiveness of the National Media Campaign based on data from - (I) the Monitoring the Future Study published by the Department of Health and Human Services, (II) the Partnership Attitude Tracking Study published by the Partnership for a Drug-Free America, (III) the National Survey on Drug Use and Health, and (IV) other relevant studies or publications as determined by the Director, including tracking and evaluation data collected according to marketing and advertising industry standards.

ONDCP is fulfilling this requirement through this report prepared by an independent contractor, Jshutay Consulting Inc., in Illinois. The first report analyzed and written by this contractor was delivered to Congress in April 2009. Jeanette Shutay, the founder and owner of Jshutay Consulting, Inc., has a Ph.D. in Research Methodology from Loyola University in Chicago, IL and is currently an Assistant Graduate Professor at Calumet College of St. Joseph in Whiting, IN. Since the incorporation of her company in September 2001, Dr. Shutay has provided statistical consultation to non-profit organizations, institutions of higher learning, graduate students, and the private sector in the capacity of a research engineer, statistician,

psychometrician, and program evaluator (small and large scale evaluations). Dr. Shutay has extensive and specialized experience in the development of feasibility forecasts for adult food and games for McDonalds U.S., McDonalds Canada and McDonalds Japan, where she has conducted analyses that determined how program characteristics such as GRPs and market type (e.g., geographical and demographic characteristics) have historically affected actual sales. Therefore the effects of media messages and the degree of message saturation on the success of the program were evaluated. Currently, Dr. Shutay is also working under contract for the Boys and Girls Clubs of Northwest Indiana as an external program evaluator.

In order to increase the quality and validity of the evaluation process, this report was peer reviewed by Dr. Zili Sloboda, who is currently the Director of Research and Development for JBS International, Inc. and the founder and past President of the Society of Prevention Research. Dr. Sloboda was previously employed at the University of Akron in Ohio as a Professor in the Institute of Health and Social Policy and she has previously served as Director of the Division of Prevention Research and Epidemiology at the National Institute on Drug Abuse. Dr. Sloboda has extensive research and applied experience in substance abuse prevention for adolescent populations and she is published extensively in the area of drug abuse prevention.

The second requirement under 21 U.S.C. 1708(b)(2)(C) requires an outcome evaluation, whereby Congress directs the ONDCP to:

ensure that the effectiveness of the National Media Campaign is evaluated in a manner that enables consideration of whether the National Media Campaign has contributed to reduction of illicit drug use among youth and such other measures of evaluation as the Director determines are appropriate.

The requirement for assessing the results of the Campaign for the current report, as set forth in authorizing legislation, is whether the combined results from the specified data sources support the hypothesis that the Campaign is having an effect on improving anti-drug attitudes, beliefs, and perceptions, and reducing drug use behavior. However, these data cannot confirm a causal relationship between the Campaign's activity and actual youth drug use because all of the data available were based on non-experimental procedures in that only cross sections of youth were surveyed (e.g., there were no longitudinally tracked cohorts of youth) and the youth were not randomly assigned to a treatment and a control group (e.g., exposed to the Campaign's *Above the Influence* recent advertising versus not exposed). Therefore the data available were derived from non-equivalent comparison groups and did not account for all potential rival explanations for changes in youth drug-related behaviors, such as the role of the economy, the role of recent drug-related events discussed in the media (e.g., celebrities), other drug-related messaging

through the internet, radio, television, etc., or other anti-drug programs that may have been implemented in schools or by local anti-drug coalitions during the course of the Campaign.

However, despite the aforementioned methodological limitations, a natural groups design allowed for the comparison of those exposed to and aware of the Campaign to those not aware of the Campaign with regard to their illicit drug use attitudes, beliefs, and intentions. Furthermore, these comparisons were made while statistically controlling for factors likely to be associated with Campaign awareness and/or youth attitudes, beliefs, intentions, and behaviors such as past 12 month marijuana usage, gender, race, and media exposure factors.

Evaluation Report Summary of Findings

The results of this evaluation indicate that the Campaign was associated with a significant and favorable effect on youth beliefs, perceptions, and behaviors. In other words, the relationships detected between Campaign awareness and youth beliefs, perceptions, and behaviors were not chance effects, but rather true effects.¹ In fact, favorable Campaign effects were found for all four years evaluated (2006 through 2009). However, the strongest effects were found for the two most recent years of the Campaign (2008 and 2009).

Specifically, the Campaign was significantly associated with (a) favorable social perceptions such as “There are a lot of cool kids who choose not to use marijuana” and “Teens today are deciding to resist influences to do things like use weed;” (b) favorable negative expectations such as “Being under the influence of weed can cause some negative things to happen to you” and “Smoking weed can cause you to miss out on things;” (c) favorable positive expectations/self-efficacy such as “Teens don’t have to give in to pressure to do things that can change them for the worse” and “Being *above the influence* can inspire others to stay away from negative influences such as marijuana;” (d) weaker agreement with social norms such as “Have a better time with friends if smoked marijuana” and “Would be more like the coolest kids if smoked marijuana;” (e) favorable perceived risk of using marijuana such as “Messing up their lives” and “Seriously upsetting friends or family;” (f) greater likelihood of being *Above the Influence* such as “You will be above negative influences” and “You will take a stand against being influenced to do things like smoking weed;” and (g) favorable marijuana usage in the past 30 days. However, there was no observable effect of the Campaign with regard to youth intentions to use marijuana. The results also indicate that the 2009 Campaign had the strongest significant effect on youth positive expectations and self-efficacy and the weakest significant

¹ This conclusion is based on the assumption that other potential causes for the difference between those who were aware of recent *ATI* advertising and the comparison group were effectively ruled out, such as past marijuana usage, intensity and type of media exposure, gender and race.

effect on social norms. Finally, the 2009 Campaign had no observed effect on youth intentions to use drugs.

This lack of an observed Campaign effect on youth intentions to use marijuana may suggest that youth who have already made a decision to smoke marijuana are not as likely to be influenced by the Campaign. The implication of this finding is that the Campaign may be more effective at changing youth belief systems and perceptions than it is at changing intentions. However, this is not to say that beliefs do not predict or effect intentions, but rather that there may be some youth who, despite improved belief systems, still believe that the likelihood of using marijuana in the future is high because they still see some benefit to using marijuana and/or they believe that the loss of benefits from not using are greater than the potential risks.

Despite the fact that the Campaign was not associated with intent to use marijuana, it is important to note that when looking at only those who reported using marijuana in the past 12 months, there was empirical evidence that the Campaign was associated with a reduced likelihood of them using marijuana in the past 30 days. This finding is based on the fact that those who were not aware of recent *ATI* advertising were 1.69 times more likely to report using marijuana in the past 30 days than those who were aware of recent *ATI* advertising. Therefore a favorable Campaign effect was also found for youth who were most at risk for current marijuana use based on a history of previous marijuana usage.

The results from the Parents and Prescription Drug Study provide some evidence that the Campaign was associated with an increased parental awareness of the seriousness of illicit prescription drug use by teens, and parents' stated intentions to safeguard drugs at home, monitor prescription and drug quantities and control access, and properly dispose of expired or unneeded medicines. However, the impact of the Campaign appears to have weakened since August 2009, which may be a result of the decrease in GRPs for the 2009 Campaign (e.g., 37% decrease since 2006 and a 26% decrease from 2008).

Although favorable and significant effects were observed with regard to youth outcomes, these data cannot confirm a causal relationship between the Campaign's activity and actual youth drug use because all of the data available were based on non-experimental procedures. However, given that other factors such as gender, race, media exposure, and drug history were statistically controlled in the secondary evaluation analyses, the favorable effects are likely due to the Campaign. Furthermore, the internal validity of these findings is supported by the fact that the advertisements are rigorously tested prior to use, and the relationships tested are linked to an empirically validated model (e.g., Theory of Reasoned Action).

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Evaluating the National Youth Anti-Drug Media Campaign

Introduction

Purpose of the report. The purpose of this report is to provide the evaluation results of the National Anti-Drug Youth Media Campaign (Campaign) in order to determine the effectiveness of the Campaign with regard to youth perceptions, beliefs, intentions, and illicit drug use behaviors. This report focuses on similar outcomes as those that were evaluated in last year's report, which was submitted to Congress on April 21, 2009. Although multiple years were evaluated (2006 through 2009), the primary focus of the report is on the results of the most recent 2009 Campaign.

Organization of the report. This report contains six major sections that are intended to follow a logical sequence and to delineate the major pieces of information within the report. The six major sections of this report include: (a) background information on the Campaign, (b) a brief discussion of the advertising testing process, (c) a description of the data sources utilized for the evaluation of the Campaign, (d) the descriptive results based on the major data sources provided, (e) the secondary data analysis results, and (f) a conclusion section that integrates and discusses the overall evaluation findings.

The National Youth Anti-Drug Media Campaign

Campaign overview. The Campaign, managed by the Office of National Drug Control Policy (ONDCP), is the government's largest public health communication effort. With bipartisan support from Congress and the Executive Office of the President, the Campaign seeks to educate and enable the country's youth to reject illicit drug use, particularly marijuana; convince current youth users of drugs to stop using them; encourage parents to take an active role in their child's life to prevent adolescent use of illegal drugs, including marijuana; and educate parents and other influential adults that their actions can make a difference in helping to decrease adolescent drug use.

The Campaign seeks to accomplish these goals by integrating national paid advertising with public communication outreach to achieve an impact on its target audiences. The Campaign allocates the majority of its funding to the purchase of advertising time and space in youth and adult media outlets including national television, radio, newspapers and other publications, out-of-home venues, cinema, and the Internet.

In November 2005, the Campaign strategy changed based on epidemiological data and expert feedback, as well as formative evaluation using both qualitative and quantitative methods. The Campaign's primary target audience was modified from targeting 11-13 year old students to targeting 14-16 year old high school students. In addition to the change in the primary target audience, the content and tone of the messages delivered was modified. Specifically, the messages were intended to help aid teens think through the sources and effects of negative influences in their lives related to drug use without overtly telling them what to think, believe, or how to act.

Campaign goal and objectives. The primary goal of the Campaign is to prevent and reduce illicit drug use in youth. Although the Campaign focuses on 14-16 year old students specifically, the Campaign is also designed to reach youths from grades 8 through 12. In order to prevent and reduce illicit drug use in youth, the Campaign advertisements are intended to change the perceptions or beliefs and attitudes of youth in order to change their intentions and behaviors relative to the use of illicit drugs, and marijuana in particular. In addition to the Campaign's efforts to reach youth through media, reaching parents through Campaign messages is also of interest, but to a lesser extent.

The primary objectives of the Campaign are to change youth perceptions (including belief systems), intentions, and behaviors by reaching youth directly through multi-media *Above the Influence* brand messaging, and through interactive venues where adolescents can obtain real-time information. A secondary objective of the Campaign has been to target parents who would then indirectly influence youth by taking specific actions such as monitoring adolescent access to prescription drugs and discussing the negative implications of adolescent drug use with their teens. In sum, the 2009 Campaign attempted to reduce youth illicit drug use intentions and behaviors by accomplishing the following:

- increasing youth social perceptions about not using illicit drugs with a particular focus on marijuana;
- increasing youth negative expectations of illicit drug use with a particular focus on marijuana;
- increasing youth positive expectations/self-efficacy about not using illicit drugs with a particular focus on marijuana;
- decreasing youth beliefs regarding the social norms associated with illicit drug use and marijuana in particular;
- increasing youth beliefs about the perceived risk associated with using marijuana;
- increasing youth likelihood of being *Above the Influence*;
- decreasing youth expectations and intentions to use marijuana in the future; and
- increasing parents' perceptions regarding risk of abuse of prescription drugs so that parents will reduce or remove youth access to prescription drugs in the home.

Evaluation requirements and strategies. Congress has set forth specific requirements for the evaluation of the National Youth Anti-Drug Media Campaign. Specifically, the Office of National Drug Control Policy Reauthorization Act of 2006 (P.L. 109-469; 21 U.S.C. 1701 *et seq.*) requires the Campaign to be evaluated in two ways.

First, 21 U.S.C. 1708(b)(2)(B) requires testing of all advertisements prior to use “...to ensure that the advertisements are effective and meeting industry-accepted standards.” Specifically, advertising is quantitatively evaluated prior to national airing in order to ensure that specific desired outcomes are achieved by the communication (e.g., strengthening of attitudes, intent to take action) and that no adverse effects are created by the messaging. This formative evaluation process is followed so that immediate feedback may be obtained and incorporated into the Campaign’s continuous improvement efforts. The creative process and the qualitative and quantitative testing of ads are discussed in more detail on page five of this report.

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However, despite the aforementioned methodological limitations, a natural groups design allowed for the comparison of those exposed to and aware of the Campaign to those not aware of the Campaign with regard to their illicit drug use attitudes, beliefs, and intentions. Furthermore,

these comparisons were made while statistically controlling for factors likely to be associated with Campaign awareness and/or youth attitudes, beliefs, intentions, and behaviors such as past 12 month marijuana usage, gender, race, and media exposure factors.

Testing of Advertising

Purpose of advertising testing. The Media Campaign uses advertising testing as a form of quality control whereby advertising is qualitatively and quantitatively evaluated prior to national airing in order to ensure that specific desired outcomes are achieved by the communication (e.g., strengthening of attitudes, intent to take action) and that no adverse effects are created by the messaging.

Creative development and qualitative/quantitative testing. Highly skilled ad agencies develop the Campaign's creative concepts on a *pro bono* basis, which are reviewed at the concept and finished product stage as well as at interim steps by The Partnership for a Drug Free America's Creative Review Committee that is composed of the advertising industry's leading creative directors.

While still in concept form (typically storyboards and scripts), this work is tested for comprehension and effectiveness of the message delivery in two ways. The first step is qualitative research (typically focus groups with teen groups of friends, or parents of teens) conducted in geographically diverse cities throughout the country to verify that the work meets the strategic communication objectives. The Media Campaign Advisory Team (MCAT), a group of external experts, also reviews the work while it is still in the conceptual stages, to ensure that it is true to the appropriate message platform and behavioral research. Based on these reviews, the initial concepts are winnowed to those most likely to achieve Campaign objectives, and those ads go into production.

After the ads are produced, but prior to going to air, a custom-designed quantitative system, known as "copy testing," is invoked. Copy testing, which is based on best practices of the advertising industry but tailored to the Campaign's specific needs, is used to evaluate how well the target audience responds to the finished advertising on a host of dimensions: whether it meets strategic communication objectives; whether it affects anti-drug attitudes and beliefs as intended; and ultimately, whether it decreases intent to use illicit drugs by youth, or increases intent to adopt certain parenting behaviors for parents. Copy testing standards have been established, and since 2002, no Campaign advertisement has been aired on television, unless it met or exceeded these standards. In addition, any ads that were aired before 2002 are subjected to the same test before they are considered for use.

Finally, it is important to note that the qualitative and copy testing research are conducted through independent, third-party vendors, not the *pro bono* ad agencies that create the advertising concepts nor the Partnership for a Drug Free America. A summary of the advertising testing process is provided in Table 1.

Table 1. Summary of Advertising Testing Process

Step	Description of process
One	Rigorous qualitative review with small focus-groups from target audience
Two	Modify ads based on feedback from focus groups
Three	Test modified ads in approximately 60 malls around the country
Four	Quantitatively evaluate ads based on pilot data using specific rubric
Five	Run ads that have successfully passed step four of the process
Six	Consider revising ads that did not pass based on analysis of results

Campaign Data Sources and Descriptive Results

Monitoring the Future Study (MTF). The MTF study is conducted by researchers at the University of Michigan’s Institute for Social Research under a grant from the National Institute on Drug Abuse. The MTF survey began in 1975 where the population of interest included only high school seniors with regard to their drug use, behaviors, attitudes, and perceptions. In 1991, the scope of the study was widened and researchers began collecting similar types of data for 8th and 10th grade students. Data are collected in schools every year during the late winter and early spring yielding a sample of approximately 15,000 to 18,000 students in each of the three grade levels.

The results from the MTF 2009 study provide data-based outcomes with regard to youth intentions, attitudes, and behaviors pertaining to illicit drug use. This report discusses the outcomes for 10th grade students ($n \cong 15,900$). The information in this section pertains to (a) youth behaviors relating to illicit drug use over time, (b) youth perceptions regarding the risks associated with marijuana use, and (c) youth disapproval of marijuana use. Although the data provided in this report span several years (2002-2009), the outcomes are based on cross-sections of survey data and therefore do not indicate change over time based on a longitudinally tracked cohort of youth. Also, all references to anti-drug commercials pertain to commercials in general and are therefore not specific to the Campaign. However, the Campaign is the only youth focused campaign with high levels of exposure and a national illicit drug focus.

Youth Behaviors Relating to Illicit Drug Use over Time

- Any illicit drug use remained statistically stable from 2008 to 2009 for 10th graders with regard to their past 12 month usage (26.9% and 29.4%, respectively) and for their past 30 day usage (15.8% and 17.8%, respectively).
- Marijuana use remained statistically stable from 2008 to 2009 for 10th graders with regard to their past 12 month usage (23.9% and 26.7%, respectively) and for their past 30 day usage (13.8% and 15.9%, respectively).

Youth Perceptions of Risks Associated with Marijuana Use

- The percent of 10th graders perceiving a great risk of people harming themselves (physically or in other ways) if they use marijuana occasionally was 37.0% in 2008 and 32.9% in 2009, which was not a statistically significant difference.
- The percent of 10th graders perceiving a great risk of people harming themselves (physically or in other ways) if they use marijuana regularly decreased by 5.3% from 2008 (64.8%) to 2009 (59.5%), which was a statistically significant decrease.

Youth Disapproval of Marijuana Use

- The percent of 10th graders who disapprove or strongly disapprove of people using marijuana occasionally decreased by 4.4% from 2008 (73.6%) to 2009 (69.2%), which was a statistically significant decrease.
- The percent of 10th graders who disapprove or strongly disapprove of people using marijuana regularly decreased by 3.1% from 2008 (83.0%) to 2009 (79.9%), which was a statistically significant decrease.

The Partnership Attitude Tracking Study (PATs). The Partnership for a Drug Free America (PDFA) supports the Partnership Attitude Tracking Study (PATs), which is conducted and analyzed by deKadt Marketing and Research, Inc. The PATs is based on a nationally representative surveyed sample of U.S. students in grades 6 (middle schools only) through 12 for the years of 1995 through 2008; however, in 2009 only grades 9 through 12 were interviewed resulting in a total of 3,287 interviews. The 2009 interviews were conducted in public, private, and parochial schools with Black and Hispanic students oversampled. Three classes were randomly selected per school and students were interviewed in April, May, or June.

The results from the PATs 2009 study focus on anti-drug advertising exposure (anti-drug general advertising as well as *ATI* advertising in particular) and youth attitudes and behaviors relating to illicit drug use, and specifically, marijuana use. The results from this study are broken down and presented in four sections: (a) exposure to anti-drug information sources and advertisements; (b) teens' *Above the Influence* attitudes over time, (c) youth perceptions of social disapproval of marijuana use, and (d) youth perceptions of great risk due to marijuana use.

General Exposure to Anti-Drug Information Sources and Advertisements

- Since 2004, statistically significantly fewer teens report viewing general anti-drug commercials daily or more often (31% in 2009 vs. 48% in 2004).
- The percent of youth seeing or hearing ads that include the phrase *Above the Influence* increased from 2007 (83%) to 2008 (88%), but then statistically significantly decreased by 3.0% in 2009 (85%).
- In 2009, 62% of youth indicated that they had heard of the *Above the Influence* Campaign, which was the highest reported awareness level when compared to other major campaigns, such as Lance Armstrong Livestrong (43%); Truth Campaign (26%); and Greenpeace (23%).

Teens' Above the Influence Attitudes over Time

- The percent of youth that strongly agree that “Teens can make the choice to be above the negative influences, such as smoking pot, rather than giving in to those influences” increased from 2007 (62%) to 2008 (65%), but decreased by 5% in 2009 (60%), which was a statistically significant decrease.
- The percent of youth that strongly agree that “Listening to yourself rather than others can help you stand up to the pressure to do things like getting high” increased from 2007 (60%) to 2008 (63%), but decreased by 4% in 2009 (59%), which was a statistically significant decrease.
- The percent of youth that strongly agree that “Choosing to be *above the influence* can help you overcome negative influences that you face” increased from 2007 (57%) to 2008 (60%), but decreased by 7% in 2009 (53%), which was a statistically significant decrease.
- The percent of youth that strongly agree that “Using marijuana can make me less than me” increased from 2007 (46%) to 2008 (49%), but decreased by 8% in 2009 (41%), which was a statistically significant decrease.

Youth Perceptions of Social Disapproval due to Marijuana Use²

- The percent of youth indicating that it should be okay for someone over 21 to smoke pot in private increased by 5% from 2008 (21%) to 2009 (26%), which was a statistically significant increase and the highest rate since 2004.
- The percent of youth indicating that smoking marijuana is okay sometimes increased by 4% from 2008 (15%) to 2009 (19%), which was a statistically significant increase and the highest rate since 2004.

² These results are based on youth perceptions in general and were therefore not linked to levels of Campaign advertising exposure. Furthermore, it is important to note that these measures of social disapproval of marijuana usage relate to a broader level of acceptance of marijuana in society.

- The percent of youth indicating that they do not want to hang around anyone who uses marijuana decreased by 4% from 2008 (28%) to 2009 (24%), which was a statistically significant decrease and the lowest rate since 2004.
- A statistically significant increase of 6% in perceived marijuana use by friends and siblings was reported from 2008 (27%) to 2009 (33%).

Youth Perceptions of Great Risk due to Marijuana Use³

- Perceived great risk to relationships, great risk to life, great personal risk, and great physical risk has decreased from 2008 to 2009. However, perceived overall great risk associated with regular marijuana use remained stable from 2007 (53%) to 2008 (53%) to 2009 (53%).

National Survey on Drug Use and Health (NSDUH). Since the early 1970s, the NSDUH (formerly the National Household Survey on Drug Abuse), which is conducted under contract to RTI by the Substance Abuse and Mental Health Administration of the U.S. Department of Health and Human Services, has been collecting data on substance abuse and mental health issues within the general U.S. household population for those 12 years of age and older. Oversampling of youth between 12 and 17 years of age is done in order to increase the sample size and therefore increase the precision of the population estimates. The survey is based on a randomly selected sample gathered monthly of approximately 67,500 persons over the full year. Agreeing participants are then interviewed in their homes.

The results from the NSDUH 2008 survey that are presented in this report focus on youth prevention-related measures only.

- **Perceptions of risk:** In 2008, 1.5% of youths aged 12 to 17, who perceived great risk to be associated with marijuana use, had reported using marijuana within the past month. However, as much as 9.4% of youth who did not perceive great risk to be associated with marijuana use reported using marijuana within the past month. These results are very consistent with the results from 2007 (1.4% and 9.5%, respectively).
- **Perceived parental disapproval:** In 2008, 90.8% of youths ages 12 to 17 reported that their parents would strongly disapprove of their trying marijuana or hashish once or twice, which was similar to the rate in 2007 (91.0%), but higher than the rate in 2002 (89.1%). Furthermore, current marijuana use was much less prevalent among youth who perceived strong parental disapproval for trying marijuana or hashish once or twice than among those who did not (4.3% and 29.8%, respectively).
- **Beliefs about peer substance use:** In 2008, 82.7% of youths aged 12 to 17 indicated that they would strongly or at least somewhat disapprove of their peers using marijuana or

³ These results are based on youth perceptions in general and were therefore not linked to levels of Campaign advertising exposure.

hashish once a month or more, which was similar to 2007 (82.9%), but an increase from 2002 (80.4%). Furthermore, in 2008, past month marijuana use was reported by only 2.3% of youth who said that they would strongly or somewhat disapprove of their peers using drugs as compared to 27.1% of youth who reported that they neither approve nor disapprove of such behaviors from peers.

- Perceptions of parental involvement and monitoring: In 2008, past month use of illicit drugs, cigarettes, and alcohol (including binge drinking) was lower among youths aged 12 to 17 who reported that their parents always or sometimes engaged in monitoring behaviors than among youths whose parents seldom or never engaged in such behaviors. For example, the rate of past month use of any illicit drug was 7.7% for youths whose parents always or sometimes helped with homework as compared with 15.6% among youth who indicated that their parents seldom or never helped with homework, which was similar to the results from 2007 (8.1% and 16.0%, respectively).
- Outside of school drug or alcohol prevention messages: In 2008, 78.0% of youths aged 12 to 17 reported having seen or heard drug or alcohol prevention messages in the past year from sources outside of school, which was similar to 2007 (77.9%). Furthermore, the prevalence of past month illicit drug usage in 2008 was lower among those who reported having such exposure (8.9%) than among those who reported having no such exposure (10.2%).

Other Relevant Studies

Parents and Prescription Drug Study. The 2009 Parent and Prescription Drug Study was based on parent telephone interviews. Parents with children between the ages of 11 and 16 were interviewed resulting in a total of 100 interviews per week. No interviewing took place during holiday periods (December 23, 2007 through January 5, 2008 and December 21, 2008 through January 3, 2009). Prescription drug baseline measures were collected from November 2007 through January 2008.⁴ The Prescription Drug Campaign launched on February 3, 2008 with the post-launch data collection period being from February 2008 through June 2008. The second Campaign ran from April 2009 through June 2009. Parents' tracking study ended on September 15, 2009.

The Parents and Rx Tracking report examined parental awareness of advertising and awareness of prescription drug abuse by youth with parental intentions, attitudes, and behaviors as measured by parent telephone interviews. The key findings from this report are outlined below:

⁴ Although baselines were established, the same individuals were not interviewed before and after the launch and therefore the research design was non-experimental.

- Parental awareness of advertising associated with teen prescription drug abuse more than doubled, after the 3-month 2008 Prescription Drug Campaign (67%) as compared to the pre-launch period (31%), and reached an all-time high of 71% in July 2009 following the 2009 Prescription Drug Campaign.
- Parental beliefs that prescription drug abuse is a serious problem among teens increased significantly from the pre-launch period (49%) to the 2008 Prescription Drug Campaign post-launch (59%). In addition, agreement that prescription drug abuse is a serious problem among teens was statistically significantly higher during the second wave of Campaign advertising activity in 2009 (59%) when compared to pre-launch periods.
- Parental intentions to take action against teen prescription drug abuse increased when comparing the pre-launch period to after the re-launch of the 2009 Prescription Drug Campaign with regard to the following actions:
 - safeguard drugs at home (68.0% to 74.3%);
 - monitor prescription drug quantities and control access (67.0% to 73%);
 - properly conceal and dispose of out-of-date and unneeded medicines (70% to 77%); and
 - set clear rules for teens about all drug use including not sharing medicines (83.3% to 86.3%).
- The percentage of parents who indicated that they are likely or very likely to limit time children spend unsupervised remained relatively stable from the pre-launch period (74.7%) to after the 2008 Prescription Drug Campaign (77.6%), but has continued to decrease since June 2009 with the July 2009 through September 2009 average being 70.0%.
- An overwhelming majority of parents ‘strongly agree/agree’ that monitoring their children will make them less likely to try drugs. For example, the average rate of agreement was 83% in 2008 and 86% in 2009.
- The percentage of parents who reported being “very likely” to impose strict consequences if their child uses marijuana remained stable at about 83% regardless of the launch period. However, the rate significantly decreased in September 2009 (73%).
- The percentage of parents who reported being “very likely” of communicating expectations to stay away from marijuana remained relatively stable at about 74% regardless of the launch period. However, the rate significantly decreased in September 2009 (65%).
- The percentage of parents who indicated that it is “very likely/likely” that their children would ever experiment with drugs remained stable at an average of approximately 18% regardless of the launch period. However, the rate significantly increased in September 2009 (25%).
- Finally, it is interesting to note that the large discrepancy that was found in 2008 between the percentage of teens who say that their parents talked to them in the past few

weeks and the percentage of parents who said that they talked to their children in the past few weeks about staying away from drugs has remained constant. This result suggests that some of the parents may have a tendency to respond in a socially desirable manner rather than in a truthful manner regarding their past behaviors, and this tendency to respond in a socially desirable manner appears to be independent of time. Therefore the parents' results should be interpreted with caution.

In-Market Tracking Study for *Above the Influence* Campaign (ATI). In-Market Tracking studies are customarily done, in accordance with advertising industry standards, to assess the performance of the advertising in the actual marketplace with regard to level of advertising awareness, recall, attitudes, and intent to take action. The Campaign uses a tracking study conducted by Millward-Brown, which is a widely known advertising and market research firm.

The Campaign tracking study serves as a valuable tool in guiding Campaign decisions, strategic direction, and media spending, which results in a more efficient use of Campaign resources. Due to the time series nature of the data, gathered year-round and reported monthly, analyses may be done examining both long-term and short-term outcomes. These outcomes include:

- optimizing media weight through modeling awareness;
- refining media plans (e.g., flight length, ad wear-out);
- providing information for making changes and improvements to strategic direction on an ongoing basis;
- validating logic model linkages that show how the Campaign effectively communicates messages (e.g., spending to awareness to attitudes to intentions to behaviors); and
- conducting advertising pre-launch/post-launch studies in order to identify differences and gauge real-time responses.

The methodology of the Media Campaign's In-Market Tracking study includes the following features:

- For the youth study:
 - New samples of 100 teens between the ages of 14 and 16 are surveyed each week with the exception of two holiday weeks in the month of December.
 - Gender balance: half male/half female.
 - Race/ethnicity balance: according to census counts (stratified random sampling)
 - Research takes place at geographically dispersed mall facilities around the country.
 - 15-minute interviews; completed using self-administered, fully interactive, touch-screen technology.

- Key measures include: brand and logo awareness; ad awareness and recall; banner ad and website recognition; attitudes about drug use, social norms, and peer pressure; and intentions to use marijuana and other drugs.
- For the parent study:
 - New samples of 100 parents are surveyed each week with the exception of two holiday weeks in the month of December.
 - Interviews conducted by telephone.
 - Key measures include: awareness of teen prescription drug abuse advertising, parents' perceptions of the prevalence of teen prescription drug abuse, parents' beliefs that prescription drug abuse is a serious problem among teens, and parents' stated intentions to:
 - safeguard drugs at home;
 - monitor prescription and drug quantities and control access; and
 - properly dispose of expired and unneeded medicines.

The focus of the In-Market Tracking is on the impact of the advertising on belief systems. Beliefs are divided into three primary categories: (a) perceptions of positive outcomes associated with abstaining from marijuana, (b) perceptions of social acceptability of not using marijuana, and (c) perceptions of negative expectations associated with using marijuana. In combination, these three categories compose the belief systems of the widely accepted Theory of Reasoned Action, which is the behavior-change paradigm used by the Campaign's *ATI* Campaign and several other large-scale social marketing efforts.

The results from the In-Market Tracking study focus on the impact of the Campaign with regard to Campaign advertising awareness and youth attitudes, beliefs, and intentions. The results for this report are broken down into two sections: (a) awareness of anti-drug advertising in general and Campaign specific advertising awareness and (b) belief systems associated with marijuana use.

Advertising Awareness Results: General versus Campaign Specific Messages

- Awareness of drug prevention advertising was stable from 2006 to 2007 at 73%, but decreased in 2008 (71%) and then remained relatively stable for 2009 (70%).
- The yearly average awareness for *ATI* advertising in particular has increased steadily from 2006 (64%) through 2009 (75%).
- Average awareness of the *ATI* Logo, which is a surrogate for the *ATI* brand, continues to lead other prominent campaigns (e.g., Truth Campaign) by significant margins in logo awareness. The *ATI* logo awareness was near the all-time peak in April 2009 (85%) and was at an average of 82% for 2009.
- The all-time peak in *ATI* Logo awareness was 86% (August 2008).

Belief Systems: Expectations and Perceptions⁵

- The perceived danger of marijuana for those *ATI* aware has remained relatively stable from 2006 (45%) to 2009 (46%). Also, youth perceptions of danger with regard to drugs in general were flat from 2006 to 2008 (62%), but decreased slightly in 2009 (60%).
- The percent of youth reporting negative expectations of marijuana use such as “Smoking weed can define you as someone you don’t want to be,” has decreased slightly from 2006 (54%) to 2009 (52%) for those *ATI* aware.
- The percent of youth reporting positive expectations and self-efficacy has remained stable from 2006 (59%) to 2009 (59%) for those *ATI* aware.
- The percent of youth reporting positive social perceptions of not using drugs remained relatively stable from 2006 (53%) to 2009 (52%) for those *ATI* aware.
- The percent of youth reporting marijuana-friendly social norms and intentions of using marijuana has remained stable from 2006 (35%) to 2009 (35%) for those *ATI* aware.
- The percent of youth perceiving there to be at least 1 out of the 7 listed risks of marijuana use (e.g., messing up their lives or losing control of themselves) has significantly declined from 2006 (38%) to 2009 (33%) for those who are *ATI* aware.

Evaluation Analysis Results

This section of the report evaluates the Campaign through the analysis of the In-Market Tracking raw data, which is directly linked to the *ATI* Campaign. Therefore while the descriptive results in the previous section provided information relative to measured outcomes, this section determines if the Campaign is statistically significantly associated (e.g., statistically reliable) with those outcomes, and if so, the magnitude of those relationships.

Table 2 outlines the major constructs (e.g., attitudes/perceptions, beliefs, and intentions) that were measured through this secondary analysis. The constructs outlined in Table 2 represent the youth belief systems and perceptions that have been linked to the Campaign and tracked longitudinally. An example of an item linking to each of the constructs listed in Table 2 is provided below:

⁵Belief systems pertain to youth beliefs about the implications of marijuana use such as positive expectations of not using marijuana, negative expectations of using marijuana, and self-efficacy. Beliefs were measured by asking a set of 19 questions such as “Teens can make the choice to be above negative influences rather than give into them,” “Listening to yourself rather than others, can help you stand up to pressure to do things like get high,” and “A lot of teens today are deciding to resist the influence to use marijuana.”

- Social perceptions: “There are a lot of cool kids who choose not to use marijuana.”
- Negative expectations: “Being under the influence of weed can cause some negative things to happen to you.”
- Positive expectations/self-efficacy: “Teens don’t have to give in to pressure to do things that can change them for the worse.”
- Social norms: “Have a better time with friends if smoked marijuana.”
- Perceived risk of using marijuana: “Messing up their lives.”
- Likelihood of being *ATI*: “You will take a stand against being influenced to do things like smoking weed.”
- Intentions: “Intend to smoke marijuana in the next year.”
- Past 30 day marijuana usage was based on the self reported frequency of use.

Table 2. Characteristics of the Evaluation Constructs

Construct	Scale	Items
Social perceptions	11-point	5
Negative expectations	11-point	6
Positive expectations/self-efficacy	11-point	9
Social norms	11-point	2
Perceived risk of using marijuana	5-point	7
Likelihood of being <i>ATI</i>	11-point	3
Intention of using marijuana	4-point	2
Past 30 day marijuana use	6-point	1

In order to examine the effect of the Campaign on youth beliefs, perceptions and intentions, multiple regression analysis was used. Demographic variables such as gender and race were included, exposure to media through the television, internet, radio and reading materials were included, and the extent of youth past 12 month marijuana usage was included in the analysis. The inclusion of the demographic, media exposure, and past marijuana usage variables helped to statistically control for those effects with regard to youth beliefs, perceptions, and intentions. In other words, the effect of being aware of recent *ATI* advertising on youth beliefs, perceptions, and intentions could be determined without demographic factors, media exposure factors, and historical drug usage affecting that measured effect. The analyses were conducted for each year of the *ATI* Campaign in which a full year of data was obtained (2006 through 2009). However, the primary focus is on the results from the most recent 2009 Campaign.

Table 3 summarizes the outcomes evaluated and the effect of the most recent 2009 Campaign on each outcome of interest. The effect sizes reported in Table 3 pertain to the obtained standardized regression coefficients, which are interpreted in the same manner as a correlation coefficient. The *p* values reported are the obtained significance values. Significance values less than .05 signify that there is less than a 5% chance that the relationship detected is false and therefore the result is considered to be statistically significant.

Table 3. Campaign Effect Summary by Outcome

Outcome	<i>ATI</i> aware mean	Comparison mean	Effect size	<i>p</i> value
Social perceptions	7.97	7.13	0.115	< .001
Negative expectations	8.35	7.31	0.124	< .001
Positive expectations/self-efficacy	8.81	7.61	0.170	< .001
Social norms	5.16	5.57	-0.036	0.006
Perceived risk of using marijuana	3.73	3.43	0.084	< .001
Likelihood of being <i>ATI</i>	8.35	7.45	0.108	< .001
Intention of using marijuana	1.94	2.04	0.015	0.143
Past 30 day marijuana use ⁶	1.80	2.29	-0.131	< .001

The results presented in Table 3 indicate that the Campaign was significantly associated with (a) favorable social perceptions such as “There are a lot of cool kids who choose not to use marijuana” and “Teens today are deciding to resist influences to do things like use weed;” (b) favorable negative expectations such as “Being under the influence of weed can cause some negative things to happen to you” and “Smoking weed can cause you to miss out on things;” (c) favorable positive expectations/self-efficacy such as “Teens don’t have to give in to pressure to do things that can change them for the worse” and “Being *above the influence* can inspire others to stay away from negative influences such as marijuana;” (d) weaker agreement with social norms such as “Have a better time with friends if smoked marijuana” and “Would be more like the coolest kids if smoked marijuana;” (e) favorable perceived risk of using marijuana such as “Messing up their lives” and “Seriously upsetting friends or family;” (f) greater likelihood of being *Above the Influence* such as “You will be above negative influences” and “You will take a stand against being influenced to do things like smoking weed;” and (g) favorable marijuana

⁶ Past 12 month usage was not included for this analysis given that the outcome of interest was self-reported marijuana usage within the past 30 days. The goal of the analysis was to determine the Campaign’s effect on recent marijuana usage regardless of one’s previous history of marijuana use.

usage in the past 30 days. However, there was no observable effect of the Campaign with regard to youth intentions to use marijuana.

Another important finding that emerged from the multiple regression analyses pertained to the role of media on youth intentions. Therefore, in order to more clearly understand the potential relationship between media and youth intent to use drugs, the effect of media on intentions was explored separately for those *ATI* aware and those not *ATI* aware. The results indicate that exposure to media had no significant effect on intentions to use marijuana (after statistically controlling for gender and past 12 month usage) for those who were aware of recent *ATI* advertising. However, for those who were not aware of recent *ATI* advertising, more Internet exposure was associated with lower intentions to use while more radio exposure was associated with greater intentions to use marijuana.

Finally, in order to examine the relationship between Campaign exposure and current marijuana use (past 30 days) for those who were most at-risk (those who reported past marijuana usage), an additional analysis was conducted based on only those who reported using marijuana in the past 12 months. The results indicate that those who were not aware of recent *ATI* advertising were 1.69 times more likely to report current marijuana use than those who were aware of recent *ATI* advertising.

Conclusions

Interpretation of evaluation findings. The results of this evaluation indicate that despite a significant weakening of youth belief systems, the Campaign was significantly associated with favorable social perceptions, favorable negative expectations, favorable positive expectations/self-efficacy of being *Above the Influence*, weaker perceptions of social norms, stronger perceived risk of using marijuana, a greater likelihood of being *Above the Influence* by taking a stand against being influenced to do things like smoke weed, and favorable marijuana usage in the past 30 days. However, the Campaign was not associated with weaker intentions to use marijuana.

This lack of an observed Campaign effect on youth intentions to use marijuana may suggest that youth who have already made a decision to smoke marijuana are not as likely to be influenced by the Campaign. The implication of this finding is that the Campaign may be more effective at changing youth belief systems and perceptions than it is at changing intentions. However, this is not to say that beliefs do not predict or effect intentions, but rather that there may be some youth who, despite improved belief systems, still believe that the likelihood of

using marijuana in the future is high because they still see some benefit to using marijuana and/or they believe that the loss of benefits from not using are greater than the potential risks.

Despite the fact that the Campaign was not associated with intent to use marijuana, it is important to note that when looking at only those who reported using marijuana in the past 12 months, there was empirical evidence that the Campaign was associated with a reduced likelihood of them using marijuana in the past 30 days. This finding is based on the fact that those who were not aware of recent *ATI* advertising were 1.69 times more likely to report using marijuana in the past 30 days than those who were aware of recent *ATI* advertising. Therefore a favorable Campaign effect was also found for youth who were most at risk for current marijuana use based on a history of previous marijuana usage.

Another interesting finding of this evaluation was the fact that some of the media exposure sources were significantly associated with intentions to use marijuana. Specifically, for those who were not aware of recent *ATI* advertising, greater Internet exposure was associated with lower intentions to use marijuana while greater radio exposure was associated with greater intentions to use marijuana. This finding is consistent with recent research conducted by Brian Primack, Erika Douglas and Kevin Kraemer where they estimated that their adolescent participants were exposed to 40 cannabis references per day through popular music.⁷ Furthermore, the researchers concluded that their study “supports an independent association between exposure to cannabis in popular music and early cannabis use among urban American adolescents.”

In addition to the academic research conducted by Primack et al, the Los Angeles Times featured an article regarding how “cannabis is moving into the mainstream, with fashion, films, TV and politicians acknowledging that it is here to stay.”⁸ The author supported his conclusion by providing specific examples of pro-drug activities and messages, such as the inaugural THC Expo hemp and art show in downtown Los Angeles, Barney’s New York in Beverly Hills celebration of the Woodstock spirit, and Showtime’s “Weeds” program, which kicked off their fifth season by promoting their show at bus shelters, busses and billboards throughout the city. In addition, in a New York Times article, acknowledgement was given that cannabis is “spreading across TV screens” with programs such as “Cannabis Planet.” The author also discussed the “mainstreaming of pot” given frequent drug references in the media and a growing endorsement of pot by celebrities.⁹ Therefore pro-drug messaging is a force that appears to be

⁷ Brian Primack, Erika Douglas & Kevin Kraemer (2009). Exposure to Cannabis in Popular Music and Cannabis Use among Adolescents. *Society for the Study of Addiction*.

⁸ Adam Tschorn, “Marijuana’s New High Life,” *Los Angeles Times*, August 30, 2009, <http://articles.latimes.com/2009/aug/30/image/ig-potculture30>

⁹ Brian Stelter, “A Popular Plant is Quietly Spreading across TV Screens,” *New York Times*, September 15, 2009, www.nytimes.com/2009/09/15/arts/television/15pot.html

working directly against the efforts of the Campaign. In other words, the Campaign messages may be competing against the messages delivered by popular media, including both news and entertainment.

The results from the Parents and Prescription Drug Study provide some evidence that the Campaign was associated with an increased parental awareness of the seriousness of illicit prescription drug use by teens and parents' stated intentions to safeguard drugs at home, monitor prescription and drug quantities and control access, and properly dispose of expired or unneeded medicines. However, the impact of the Campaign appears to have weakened since August 2009, which may be a result of the decrease in GRPs for the 2009 Campaign (e.g., 37% decrease since 2006 and a 26% decrease from 2008).

Summary and limitations of the findings. The Campaign was shown to have an observable and favorable effect on youth perceptions and beliefs. Also, there is some evidence suggesting that the Campaign may have had a favorable impact on current (e.g., past 30 day) marijuana use for youth with a history of marijuana usage. Finally, the Campaign was associated with an increase in parental awareness of the seriousness of prescription drug use by teens, and an increase in parents' intentions to safeguard drugs at home, monitor prescription drug quantities and control access, and properly dispose of expired or unneeded medicines.

Although favorable and significant effects were observed with regard to youth outcomes, these data cannot confirm a causal relationship between the Campaign's activity and actual youth drug use because all of the data available were based on non-experimental procedures in that only cross sections of youth were surveyed and the youth were not randomly assigned to a treatment and a control group (e.g., exposed to the Campaign's *Above the Influence* recent advertising versus not exposed). However, given that other factors such as gender, race, media exposure, and drug history were statistically controlled in the secondary evaluation analyses, the favorable effects are likely due to the Campaign. Furthermore, the internal validity of these findings is supported by the fact that the advertisements are rigorously tested prior to use, and the relationships tested are linked to an empirically validated model (e.g., Theory of Reasoned Action).

Future evaluations of the Campaign will likely incorporate similar methodological and statistical strategies as the current evaluation, given that an experimental design is not feasible. However, efforts are currently underway to collect data that may be more sensitive to detecting the effects of the Campaign on youth perceptions, beliefs, intentions, and behavior.

Figure 1. Perceived Great Risk of Marijuana and Marijuana Use among Youth 12 to 17

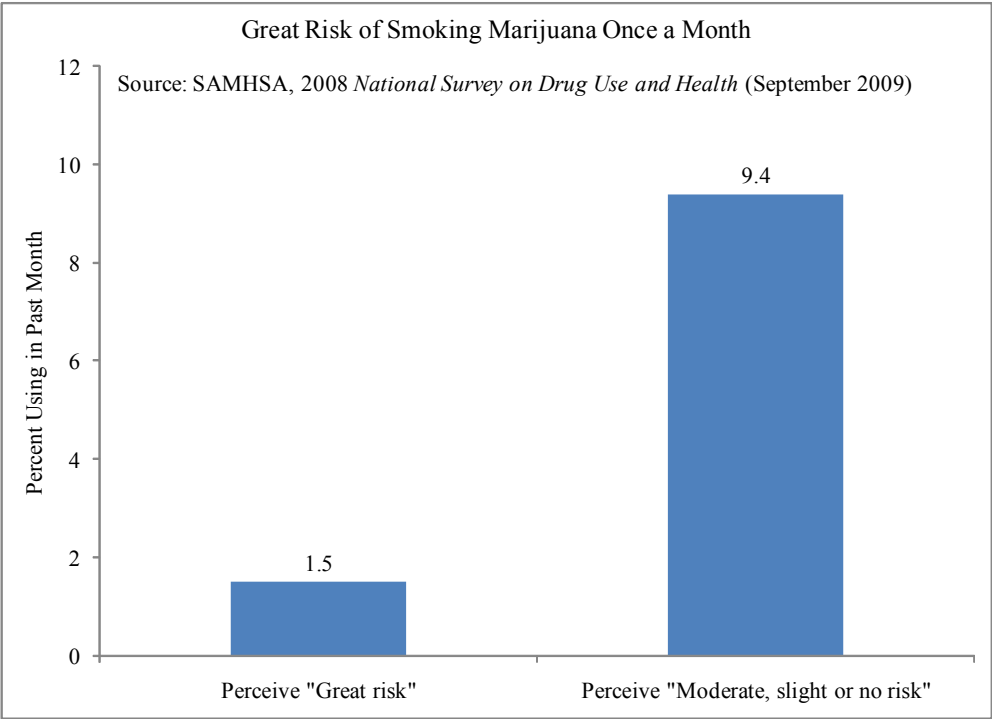


Figure 2. Perceived Parental Disapproval of Youth 12 to 17 and Marijuana Usage

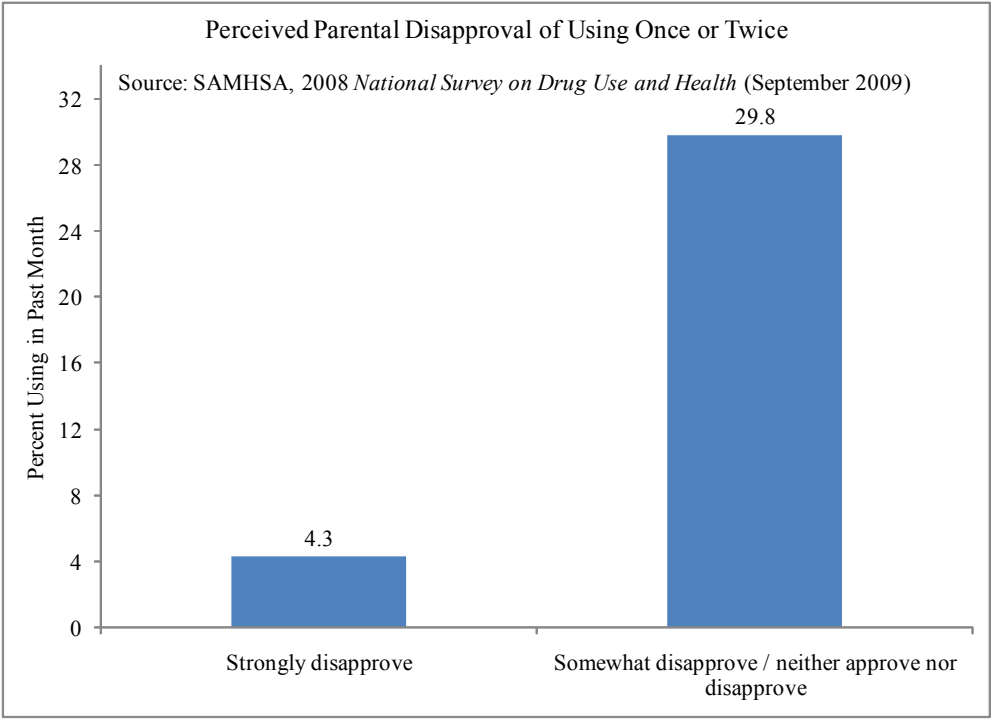


Figure 3. Any Illicit Drug Use Trend Lines for 10th Graders

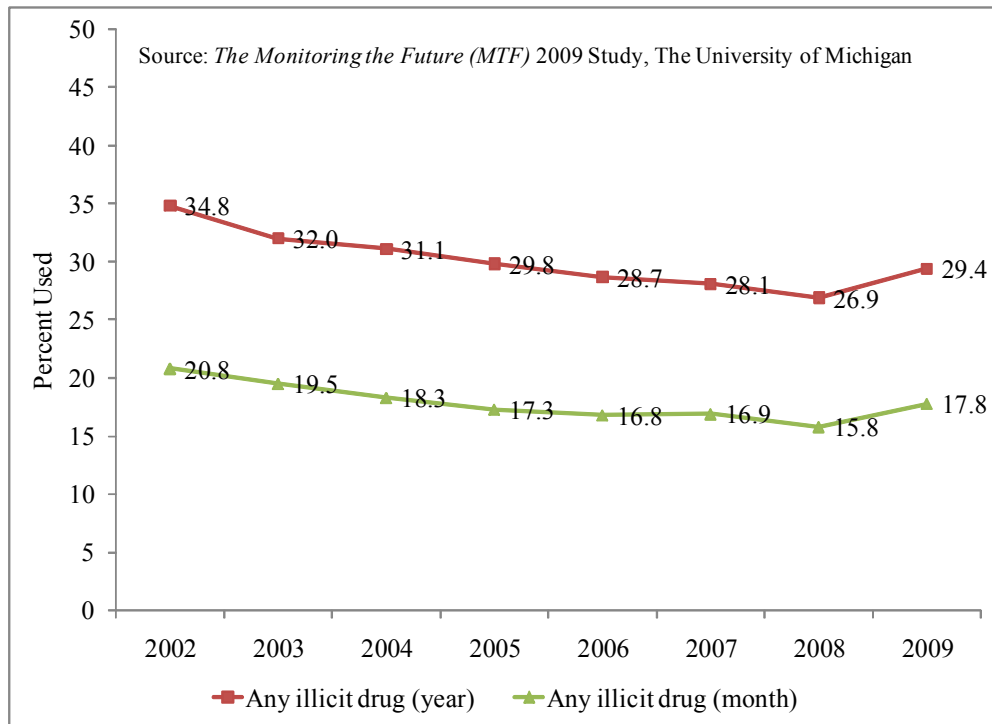


Figure 4. Marijuana Use Trend Lines for 10th Graders

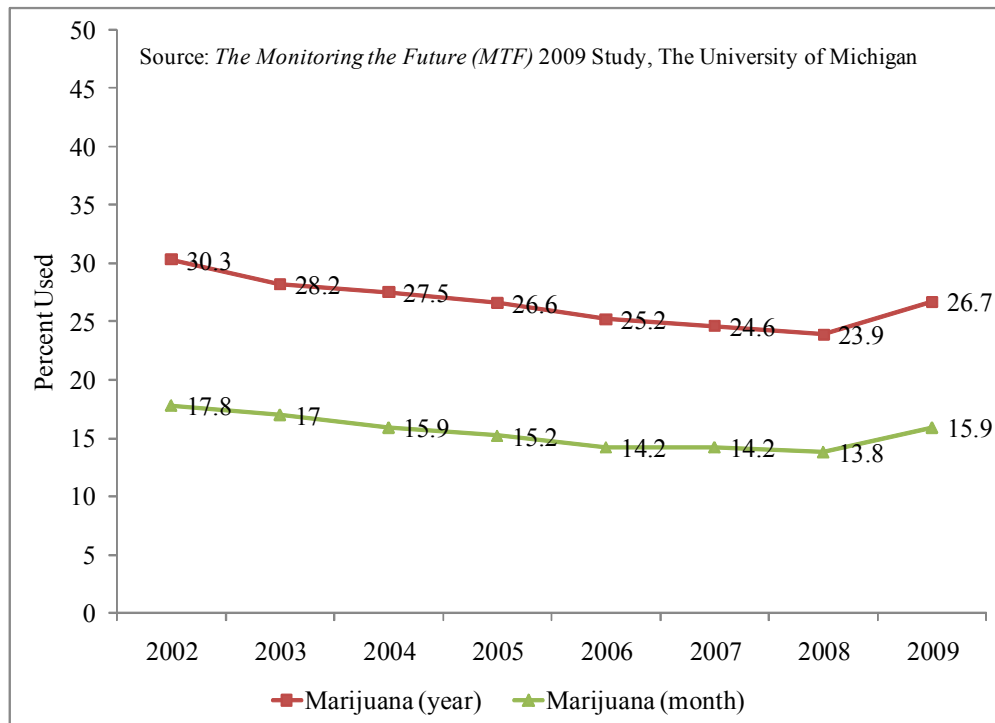


Figure 5. Perceived Great Risk of Marijuana among 10th Graders

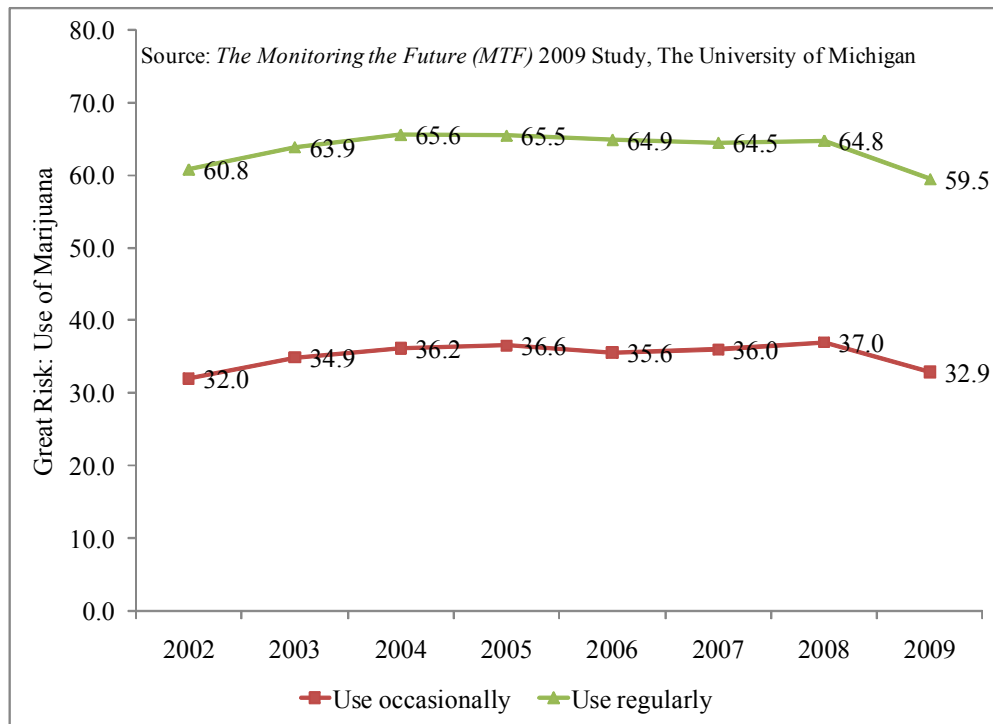


Figure 6. Disapproval of Using Marijuana among 10th Graders

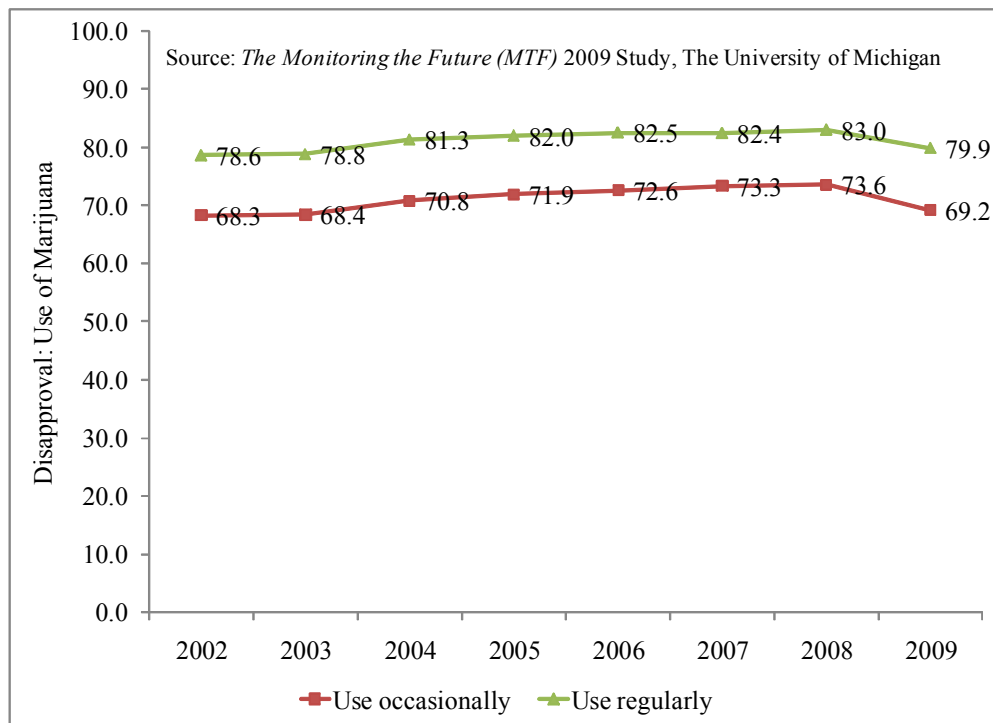


Figure 7. *ATI* Aware Youth Perceived Danger of Marijuana vs. Drugs in General

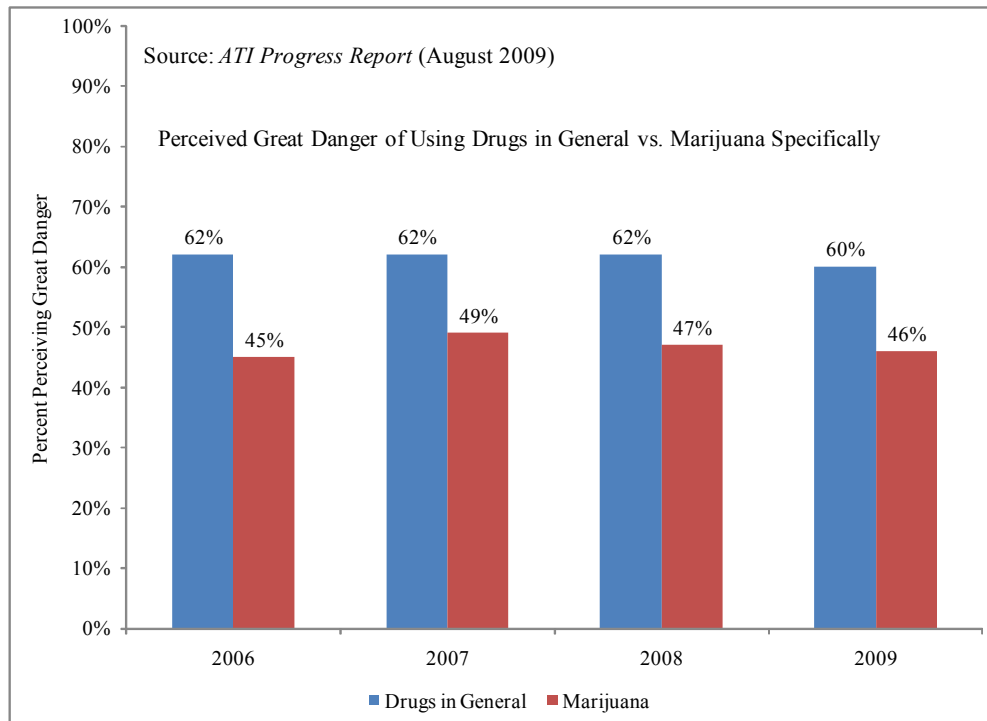


Figure 8. *ATI* Awareness and *ATI* Attitudes

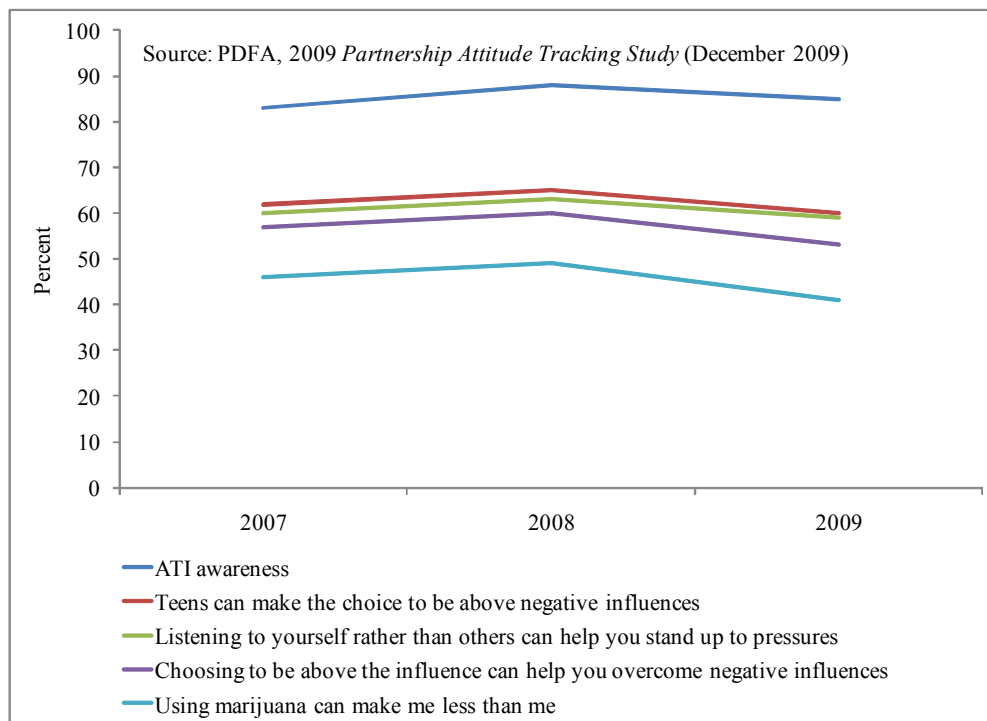


Figure 9. Perceptions of Marijuana Use

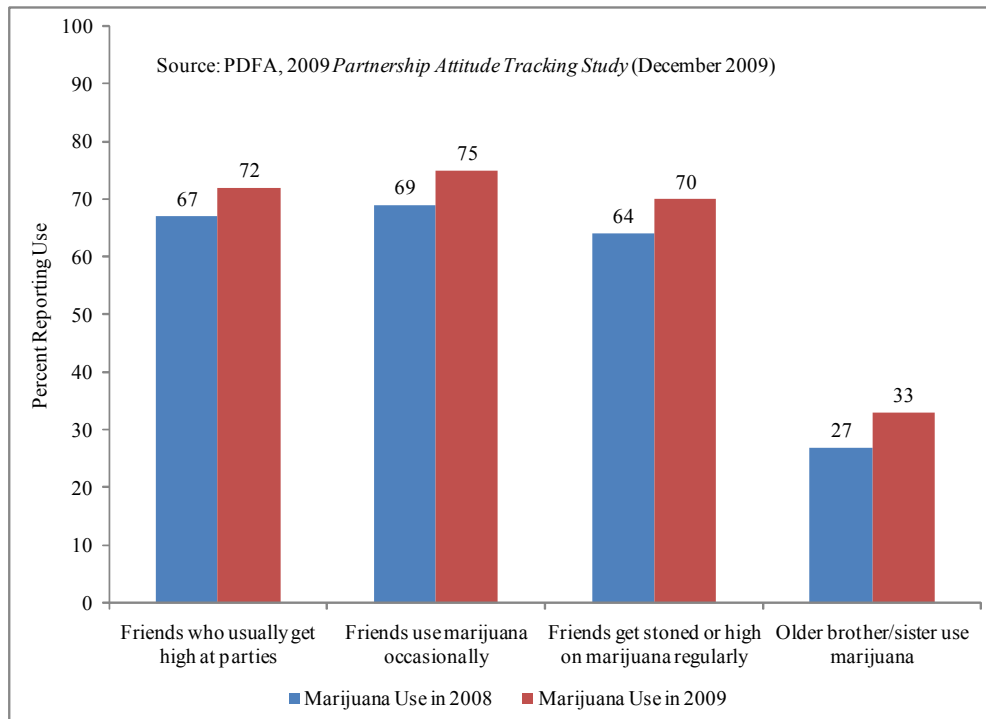


Figure 10. Perceived Great Risk of Marijuana Use

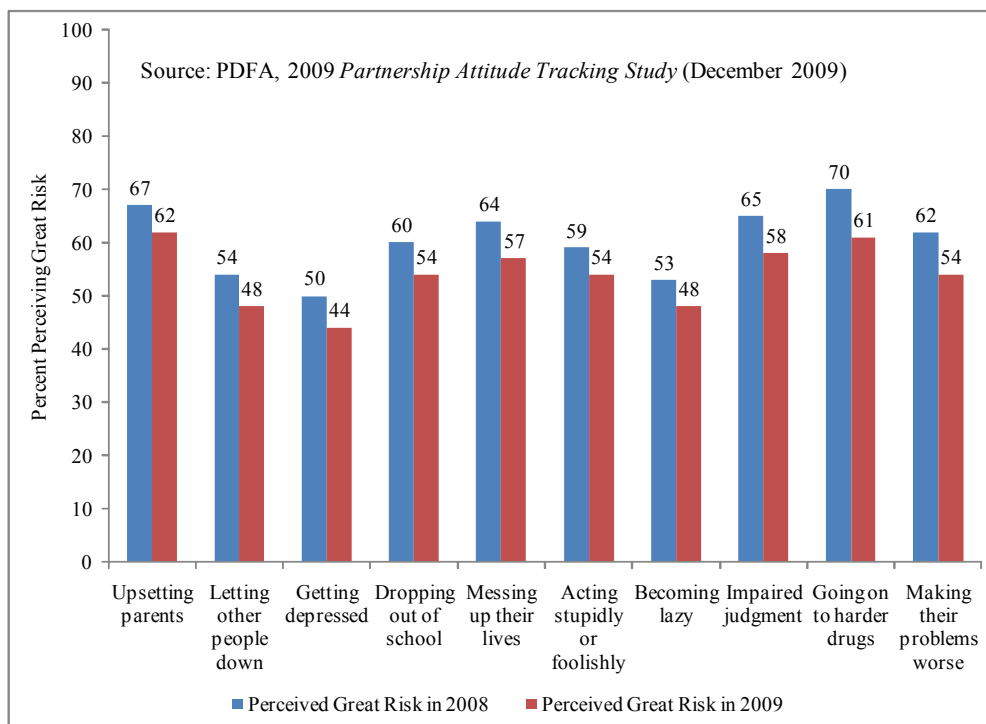


Figure 11. Total Youth (12 – 17) GRPs for the Campaign: FY2006-FY2009

