LESSONS LEARNED FROM MEDIA-BASED PREVENTION CAMPAIGNS, OR, IT TAKES MORE THAN MONEY AND GOOD INTENTIONS

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Progress to date in US Marijuana Prevention

![Diagram: Lifetime Marijuana Use by Year]

- **8th Grade**
- **10th Grade**
- **12th Grade**

The graph shows a decreasing trend in lifetime marijuana use from 1999 to 2011, with the lowest usage observed in the 12th grade.
Costs of this progress

• From 1998-2006, $1,400,000,000 to run National Youth Anti-drug Media Campaign (NYAMC)

• In that same period, Westat, the evaluators, were paid $42,700,000 to assess program effects

• Despite these expenditures, the evaluators concluded: Greater exposure to the campaign was associated with weaker anti-drug norms and increases in the perceptions that others use marijuana.

• And, in some measurement periods, greater use of marijuana was associated with frequency of exposure to the ads
Does it matter that our prevention efforts have not done well?
Let us consider marijuana prevention

Marijuana use by adolescents is associated with:
• Learning deficits & Inferior academic achievement
• Higher levels of aggression and delinquency
• Higher likelihood of car-related injury (self & others)
• Poorer relations with parents
• Greater risks of contracting sexually transmitted diseases
• More positive attitudes toward drugs and drug use
• Addiction: more adolescents enter treatment with a primary diagnosis of marijuana dependence than for all other illegal drugs combined.
• More associations with delinquent and drug-using friends
• Much greater likelihood of more dangerous drug usage in adulthood
Our analysis of past successes and failures, along with our own research, leads to these conclusions

• Successful media campaigns were:
  • *Always* based on established theories of persuasive messaging
  • *Usually* used subtle appeals (vs. extreme threats/language)
  • *Often* appealed to parents, or were associated with parental monitoring
  • *Sometimes* involved larger efforts, including school & community
Our analysis of past successes and failures lead to these conclusions

• Unsuccessful campaigns were:
  
  • *Never* based on established theories of message-based persuasion
  
  • Almost always were obviously manipulative
  
  • *Often* used fear-based appeals, that made
    • unrealistic threats
    • easily disproved or inconsistent with experience
  
  • *Never* appealed to parents
The process of persuasive change

• I attempt to persuade an audience to adopt a specific practice or idea

• This suggestion is contrary to audience members’ beliefs

• What is your reaction -- as an audience member, what do you do?

• Theoretically, you resist – we call this counter-arguing
  • Resistance may involve
    • Logical disconfirmation of my argument
    • Derogation of the message source
    • Distortion (biased misunderstanding) of my message
In light of these expected responses to persuasion, let’s consider recommendations from an old & established theory of messaging

- The theory insists that a persuasive* message must accomplish three functions:
  
  - Raise question in receiver’s mind
  
  - Provide an answer to the question
  
  - Offer some form of reinforcement to the receiver for agreeing with the message

*Note: there’s a difference between persuasion & reinforcement
In light of these expected responses to persuasion, let’s consider recommendations from an established theory of messaging

- In this theory, the message receiver is not viewed as passive recipient of information – we expect resistance (or, counter-argumentation)

- The persuader must win this internal cognitive debate through a combination of source, message and context variations, acknowledging differences in receiver features

- *The concept of counter-argumentation is the fundamental theoretical basis from which we proceed in developing all of our research*
The goals

- Make counter-argumentation difficult, impossible, or apparently unnecessary
- Ensure message source is viewed as expert
- If possible, target or tailor the persuasive message to unique susceptibilities of the group or individual to enhance message effects
  - This means that you must match your goals to intended audience
    - Do you want to reinforce resolute nonusers?
    - Or, persuade those who are contemplating drug use to resist?
    - Or, influence users to quit?

Each of these “audiences” requires a different persuasive approach; a single campaign probably will not affect all 3 groups
Do Audience Features Matter?

![Graph showing user engagement over different rounds.](image-url)
Focusing strictly on counter-argumentation, the question remains, How to do it?

- Three established methods to render counter-argumentation difficult (and the persistence of resultant effects)
  - Overload (short term change, not based on knowledge) (Information not sufficient, but necessary)
  - Distraction (usually short term, knowledge acquisition difficult)
  - Misdirection (long term change) (e.g., vary the apparent target of communication; good chance of persistent change if message is good]
What is misdirection?

- “Parents [Students], I’d like to talk to you today about an important issue…message attacked illicit substance use
  - Middle-school youth significantly more persuaded by “Parents” ad. Why counter-argue a message to Mom?
- Arizona anti-smoking campaign –
  - Second hand smoke ads directed to parents worked… on adolescents as well as parents!
  - Both of these studies succeeded because the audience did not recognize the need to counterargue
- Parents – the anti-drug: national campaign also worked well, a unique result for most recent attempts
The “Parents” Campaign

• Parents – the anti-drug
  • Unlike more costly campaigns, this smaller scale national campaign had a positive impact on adolescents’ drug use

• Why?
  • Most obviously, parents became more aware and monitored children more closely
  • Less obviously, children saw the ads, and did not counterargue – why bother? The ad was directed at Mama
The “Parents” Campaign

Can parents really have a major impact on their adolescent children?

And, if so,

Can insights from studies of parents’ effects be transferred to mass media campaigns?
Three studies that test the contribution of parental impact on children’s substance misuse

- Study 1: Relation of parental monitoring and drug use

- 1094 parent-child pairs (4th-12th grade children)

- Positive family relations and parental monitoring were strongly associated with attenuated marijuana (& inhalants) use, especially among those most knowledgeable about drugs.
Likelihood of Inhalant Use by Parental Monitoring and Knowledge (Low, Moderate, High)
Three studies that test the contribution of parental impact on children’s substance misuse: Study 2

- Meta-analysis of 17 studies involving 35000 respondents
- Link between parental monitoring and marijuana use
  - Results indicated a significant relation between monitoring and adolescent marijuana use: Greater monitoring = less use
    - Stronger in girls than boys
    - Stronger when monitoring was defined strictly in terms of knowledge
    - Strong evidence against chance
      - 7,358 studies of nil effects required to render overall result statistically non-significant
Still not convinced? Let’s consider a third study

• Self-fulfilling (parental) prophecy effects on children’s drug use
  • Analysis used a nationally representative sample of youth (12-18 years of age): \( N = 3400 \) parent-child pairs
    • Adolescents asked about lifetime drug use at Time 1; then, a year later (Time 2), asked about their past year’s use
    • Parents asked if children had ever used drugs (Time 1); then, at Time 2, if children had used in past year

• Some parents’ estimates of children’s use were in accord with their children’s; others were not. Self-fulfilling prophecy can only when there is a different between perceptions and reality.

• Did incongruity between parents’ perceptions and children’s self-reports of drug use give rise to a self-fulfilling prophecy?
Effects of parental expectations on their children who do not admit to using marijuana

![Graph showing the impact of parental expectations on marijuana usage rate over time. The graph indicates a significant increase in usage rate from Time 1 to Time 2, with a p-value of less than 0.001. The blue line represents 'Parent-No', and the red line represents 'Parent-Yes'.]
Rival alternative possibilities

- Self-fulfilling prophecy – parent’s incorrect assumption and subsequent behavior encouraged the child’s subsequent drug use

- Child lied – he/she had used marijuana but gave a socially desirable response. Parent knew the truth and reported it

- If social desirability is responsible for these results, then they should not replicate in a subsample of children who seem unaffected by a social desirability response set
Effects of parental expectations on their children who admit to using marijuana

p < .001
Other Findings

- Parents who thought their child used drugs
  - Reported speaking about them more frequently with their children
  - Were less optimistic about “drug talk”

- Children’s reports were consistent with parents’, but
  - Users found it more difficult to talk with parents, as did nonusers whose parents thought they were using
  - Nonusers reported significantly higher levels of parental monitoring, and assumed greater severity of negative consequences if they initiated drug use and were caught
Would parents know if you were using marijuana?

- The results suggest the majority of adolescents assume their parents were not likely to know that they had initiated marijuana use.

- This finding is especially interesting among the users, as it suggests that most had not been confronted by parents.

- The self-fulfilling prophecy may be conveyed subtly

Let’s extend these results to the population level
Marijuana Usage at T2 as a Function of Parents’ Perceptions and Self-Reported Use at T1 for users (1st table) and nonusers (2nd Table): Results Include Percentage of Users at T2, Relative Risk, Odds Ratios, Percent Population at Risk, and 95% Confidence Intervals

<table>
<thead>
<tr>
<th>Parental Perceptions T1</th>
<th>Children’s Usage at T2</th>
<th>%</th>
<th>Relative Risk and CI</th>
<th>OR and CI</th>
<th>%PAR and CI</th>
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<tbody>
<tr>
<td></td>
<td>Continues to Use</td>
<td>Stops Using</td>
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<td></td>
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<tr>
<td>Child Does Not Use</td>
<td>106</td>
<td>63</td>
<td>62.7</td>
<td>2.08*</td>
<td>2.72*</td>
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<tr>
<td>Child Uses</td>
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<td>21</td>
<td>82.1</td>
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<td>1.54 to 4.78</td>
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<td></td>
<td>Initiates Usage</td>
<td>Remains Abstinent</td>
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<tr>
<td>Child Does Not Use</td>
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<td>2760</td>
<td>10.16</td>
<td>3.28*</td>
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<tr>
<td>Child Uses</td>
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<td>42</td>
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<td>2.28 to 4.73</td>
<td>2.59 to 7.57</td>
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Epidemiological implications for population risk

• T1 marijuana users

  • Adolescent users whose parents indicated that their children used marijuana at T1 were more than twice as likely to continue using as those whose parents, probably incorrectly, reported that their children had not initiated marijuana use.

  • Assuming causal effect of parents’ prophecies on children’s actions, then the results suggest parents’ misjudgments at T1 (i.e., reporting nonuse when the children themselves had admitted to using marijuana) resulted in a 39% decline at T2 in the original sample of users!
Epidemiological implications for population risk

- T1 marijuana nonusers

  - Adolescents whose parents indicated that their children used marijuana at T1 were 3.3 times more likely to begin using as those adolescents whose parents who reported that their children had not initiated marijuana use.

  - Assuming causal effect of parents’ prophecies on children’s actions, then the results suggest parents’ misjudgments at T1 (i.e., reporting use when the children themselves had denied using marijuana) resulted in a 4.3% increase in usage at T2 in the original sample of nonusers.
Implications for policy makers

• Target your audience [users, intenders, resolute nonusers]

• Adopt process to overcome counter-arguments
  • Raise question
  • Provide answer
  • Reinforce acceptance

• Do not over-promise or over-threaten; scalpel is more effective than the axe

• Involve parents, if possible; if not possible, make it possible

• Creative ads are wonderful, if they follows these rules; if not, they are a waste of time, energy, and scarce resources
Thank you for your kind attention
Some references used in this work