Relation between Televised Anti-Smoking Advertising and Youth Smoking in the United States

Funded by:

State and Community Tobacco Control Initiative
US National Cancer Institute

and

The National Institute on Drug Abuse
Research team

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Background

Anti-smoking advertising can reduce youth smoking

Most studies involve research demonstration projects; effects of tobacco control advertising at the state level or national level

Huge variation in exposures over time and between US communities in exposure to anti-smoking advertising = natural experiment
Counter-Marketing Campaigns in the US: 31 State Campaigns + ALF

- California
- Massachusetts
- Michigan
- Arizona
- Florida, Maine, Oregon
- Indiana, Mississippi, New Mexico, New York, Oklahoma, Utah, Washington, Wisconsin
- Idaho, Kansas, Minnesota, American Legacy Foundation
- Connecticut, Georgia, Iowa, Illinois, New Jersey
- Colorado, Maryland, New Hampshire, Ohio, Pennsylvania, Rhode Island, Texas, West Virginia
Other Smoking-Related Messages

Pharmaceutical Cessation Aids (NRT, Zyban)
Early 1992-present

Philip Morris’ Television Campaigns

Dec 1998  Think. Don’t Smoke. (Youth)*
Jul 1999  Talk. They’ll Listen. (Parent)
Jul 17, 2000  Tobacco Settlement Agreement. Things are changing.

*Phillip Morris reported that they stopped airing their youth-focused “Think. Don’t Smoke” campaign in June 2002.
Research aims

Describe the amount and type of televised anti-smoking advertising to which youth in different communities are exposed.

Examine the relationship between amount and type of anti-smoking advertising and youth smoking.
Research hypotheses

Exposure to TV anti-smoking (state and ALF) ads is associated with:

+ more positive anti-smoking attitudes and beliefs
- reduced adolescent smoking

Exposure to TV Pharmaceutical or Tobacco Company ads is associated with:

? smoking-related attitudes, beliefs and behaviors
Study design: outcome measures

- Monitoring the Future (MTF) survey data from 50,000 youth each year in Feb-June
- School-based sampling frame
- Smoking attitudes and behaviors of 8th, 10th and 12th graders
- This analysis incl. data from 1999-2000
- Individual level records for each youth
Study design: exposure measures

• Archival records of televised anti-smoking advertising from Nielsen Media Research
• 75 media markets, covering around 80% of US population
Exposure measure: gross rating points

- Expresses the percentage of households in a media market exposed to one viewing of an ad in a specified time frame – if 1% of households see ad one time, ad earns 1 gross rating point (GRP)

- Exposures to multiple ads on multiple channels are estimated by summing GRPs over time

- Aggregated monthly to estimate the average number of times an ad is exposed to an audience per month

  - 100 GRPs/month = av. 1 exposure/month
  - 250 GRPs/month = av. 2.5 exposures/month

- Exposures are averages across the population in the media market
Study descriptives

Of 75 media markets, 62 with MTF data
   - 16 with state campaigns, 46 without*

N = 65,891 youth
Mean age = 15.4 years
Smoked in last month = 23%
Watch at least 2 hrs TV per day = 71%

*markets without at least 1 average exposure per month from state campaigns
Statistical analyses

Used monthly exposures of age 12-17 GRPs (TRPs) for 5 months prior to survey administration.

Used decay function of monthly cumulative exposure, where past advertising is discounted (Pollay et al., 1996).

Regression analyses adjusting for clustering using STATA.

Adjusted for hrs TV watched/day, year, gender, race, grade, SES, earned income, rebelliousness, cigarette price in state, strength of state smoke-free air laws.
Perceive Smoking Prevalence among Students in Your School as 70\% or more

(results presented in odds ratios)

<table>
<thead>
<tr>
<th>Higher TRPs for...</th>
<th>8\textsuperscript{th} grade</th>
<th>10\textsuperscript{th} grade</th>
<th>12\textsuperscript{th} grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>ns</td>
<td>0.96</td>
<td>ns</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>1.18</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Tob Co Parent</td>
<td>1.71</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Tob Co Corporate</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Tob Co Youth</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

Adjusted for covariates
Definitely intend NOT to smoke in next 5 years

(Results presented in odds ratios)

<table>
<thead>
<tr>
<th>Higher TRPs for…</th>
<th>8th grade</th>
<th>10th grade</th>
<th>12th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>1.18</td>
<td>ns</td>
<td>1.10</td>
</tr>
<tr>
<td>Pharmaceutical</td>
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<td>ns</td>
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<tr>
<td>Tob Co Parent</td>
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<td>0.73</td>
<td>0.76</td>
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<tr>
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<td>ns</td>
</tr>
<tr>
<td>Tob Co Youth</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

Adjusted for covariates
## Smoked in the past 30 days

(results presented in odds ratios)

<table>
<thead>
<tr>
<th>Higher TRPs for...</th>
<th>8\textsuperscript{th} grade</th>
<th>10\textsuperscript{th} grade</th>
<th>12\textsuperscript{th} grade</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.92</td>
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<tr>
<td>Pharmaceutical</td>
<td>ns</td>
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<td>ns</td>
</tr>
<tr>
<td>Tob Co Parent</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Tob Co Corporate</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Tob Co Youth</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

Adjusted for covariates
## Cigarette consumption (+ = higher)

(results presented as beta coefficients)

<table>
<thead>
<tr>
<th>Higher TRPs for...</th>
<th>8th grade</th>
<th>10th grade</th>
<th>12th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
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</tr>
<tr>
<td>Tob Co Corporate</td>
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<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Tob Co Youth</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

Adjusted for covariates
Conclusions

• Tobacco and pharmaceutical companies are the largest smoking-related advertisers, even in states with large media campaigns.

• State-based anti-smoking ads make a positive difference to youth smoking attitudes and behavior.

• Pharmaceutical advertising and some types of tobacco company advertising may have detrimental influences on youth smoking attitudes and behaviour.
Next steps

Repeat analysis with data from 2001-02, allowing full analysis for 1999-2002 and including ALF

All state and ALF anti-smoking ads labeled by target audience, executional characteristics
Further information

Visit our website at:

www.impacteen.org/media/home.htm

for copies of presentations, methods working papers etc.