Content Analysis of Marijuana Advertisement in Print Media

Beatriz Carlini, Sharon Garrett, Robin Harwick

University of Washington, Alcohol and Drug Abuse Institute (ADAI)
Agenda

Focus on vulnerable populations - youth
• MJ ad exposure: what do we know
• What about ad content?
• Content analysis: WA state ads in freely distributed print media
• Why these findings matter
• Future directions
We know: Marijuana advertisement exposure is high

High school students nationwide (n=12,988)

Recent months:

- 52.8% internet
- 32.1% TV
- 24.1% magazine and newspapers
- 19.7% from radio
- 19% storefronts
- 16.6% from billboards

We know: Exposure is associated with use

<table>
<thead>
<tr>
<th>Type of Advertisement</th>
<th>Prevalence of Marijuana Use, Adjusted OR (95% CI) [P Value]</th>
</tr>
</thead>
<tbody>
<tr>
<td>On storefronts</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1 [Reference]</td>
</tr>
<tr>
<td>Yes</td>
<td>1.4 (1.2–1.6) [&lt;.001]</td>
</tr>
<tr>
<td>Magazine or newspaper</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1 [Reference]</td>
</tr>
<tr>
<td>Yes</td>
<td>1.6 (1.4–1.9) [&lt;.001]</td>
</tr>
<tr>
<td>Billboard</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1 [Reference]</td>
</tr>
<tr>
<td>Yes</td>
<td>1.4 (1.1–1.6) [.002]</td>
</tr>
<tr>
<td>Internet</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1 [Reference]</td>
</tr>
<tr>
<td>Yes</td>
<td>1.8 (1.5–2.1) [&lt;.001]</td>
</tr>
<tr>
<td>Television</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1 [Reference]</td>
</tr>
<tr>
<td>Yes</td>
<td>1.4 (1.2–1.7) [&lt;.001]</td>
</tr>
<tr>
<td>Radio</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1 [Reference]</td>
</tr>
<tr>
<td>Yes</td>
<td>1.7 (1.5–2.0) [&lt;.001]</td>
</tr>
</tbody>
</table>

Dai H. Exposure to Advertisements and Marijuana Use Among US Adolescents. Prev Chronic Dis 2017;14:170253. DOI: [http://dx.doi.org/10.5888/pcd14.170253](http://dx.doi.org/10.5888/pcd14.170253)
We know: number of exposures matter

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Prevalence of Marijuana Useb (n = 12,988)</th>
<th>Adjusted ORc (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of exposures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>1 [Reference]</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>1.6 (1.3–2.0)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>1.7 (1.4–2.1)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>2.1 (1.6–2.7)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>≥4</td>
<td></td>
<td>2.1 (1.7–2.6)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Source: Dai, 2017
We know: research is new and has limitations

- Variables: Ad exposure and cannabis use
  - Recall and attention bias
  - Self-report
  - Socially acceptable response

- Design: Cross sectional
  - Temporal sequence is lost
  - Causation cannot be established

- Other limitations
  - Data gets old fast
  - Medical and non-medical

Kraus et al, 2017; Fiala et al, 2017; Bierut et al, 2017; Dai, 2017
Longitudinal associations between youth tobacco and substance use in waves 1 and 2 of the Population Assessment of Tobacco and Health (PATH) Study.


* Author Information

Abstract

BACKGROUND: While evidence suggests bidirectional associations between cigarette use and substance use (alcohol or drug use), how these associations are reflected across the range of currently available tobacco products is unknown. This study examined whether ever tobacco use predicted subsequent substance use, and vice versa, substance use predicted subsequent tobacco use among 11,990 U.S. youth (12-17 years) from Waves 1 (2013-2014) and 2 (2014-2015) of the Population Assessment of Tobacco and Health Study.

METHODS: Ever use of cigarettes, e-cigarettes, traditional cigars, cigars, filtered cigars, pipe, hookah, snus pouches, smokeless tobacco excluding snuff pouches, dissolvable tobacco, bidis, cigarettes, alcohol, marijuana, prescription drugs, and other drugs (cocaine and other stimulants, heroin, inhalants, sedatives, and hallucinogens) was assessed at Wave 1 followed by post-12-month use assessments at Wave 2. The analyses included covariates (demographics, mental health, sensation seeking, prior use) to mitigate confounding.

RESULTS: Ever use of tobacco products predicted subsequent substance use. The magnitude of the associations was lowest for alcohol, higher for marijuana, and highest for other drugs. Ever substance use also predicted subsequent tobacco use. Specifically, ever alcohol, marijuana, and non-prescribed stimulants or sedatives use predicted subsequent tobacco use. E-cigarette and marijuana use specifically predicted subsequent use of other illicit substances (including alcohol use). E-cigarette and other illicit use associations in the opposite direction were also significant; the strongest associations were observed for exclusive cigarette use.

CONCLUSION: Tobacco and substance use prevention efforts may benefit from comprehensive screening and interventions across tobacco products, alcohol, and drugs, and targeting risk factors shared across substances.


Alcohol marketing and youth alcohol consumption: a systematic review of longitudinal studies published since 2008.

Arias D. T., page 4, Larose J., Thorson T. H., Larose T. R.

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Abstract

BACKGROUND AND AIMS: Youth alcohol consumption is a major global public health concern. Previous reviews have concluded that exposure to alcohol marketing was associated with earlier drinking initiation and higher alcohol consumption among youth. This review examined longitudinal studies published since those earlier reviews.

METHODS: Peer-reviewed papers were identified in medical, scientific, and social science databases, supplemented by examination of reference lists. Non-peer-reviewed papers were included if they were published by organizations deemed to be authoritative. All full-texts were obtained and examined for eligibility and quality using the National Heart, Lung and Blood Institute’s Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies.

RESULTS: Twelve studies (ranging in duration from 6 months to 8 years) following nine unique cohorts were included. All 12 found evidence of a positive association between level of marketing exposure and level of youth alcohol consumption. Some found significant associations between youth exposure to alcohol marketing and initiation of alcohol use (odds ratios ranging from 1.00 to 1.95), and there were clear associations between exposure and subsequent binge or hazardous drinking (odds ratios ranging from 1.36 to 2.15). Mediators included marketing receptivity, brand recognition, and alcohol expectancies. Levels of marketing exposure among younger adolescents were similar to those found among older adolescents and young adults.

CONCLUSIONS: Young people who have greater exposure to alcohol marketing appear to be more likely subsequently to initiate alcohol use and engage in binge and hazardous drinking.
What about content?
Content appealing to youth

Lifestyle-oriented
- **Reward**: relaxation, happiness, friendship, status, success, sexual appeal
- **Risk**: adventure, physical performance, activities that require alertness and coordination
- **Character appeal**: Celebrities, animals, anthropomorphized creatures, attractive people
- **Genres**: Humor

Product-oriented
- **Purity**
- **Quality**
- **Taste**
- **Price**

Adapted from: Padon et al. Content appealing to Youth Index. Health Communication, 2016
Lifestyle-oriented
- Reward: relaxation, happiness, friendship, status, success, sexual appeal
- Risk: adventure, physical performance, activities that require alertness and coordination
- Character appeal: Celebrities, animals, anthropomorphized creatures, attractive people, people under 21
- Genres: Humor

Product-oriented
- Purity
- Quality
- Taste
- Health effects
- Price

Adapted from: Padon et al. Content appealing to Youth Index. Health Communication, 2016
Content analysis:
WA state ads in freely distributed print media

2017
Directed to consumers
Methods

- Deductive approach, iterative process
  - NVivo software
  - Coding frames from alcohol advertisement studies
  - Added marijuana-specific codes

- Coding
  - Two-step procedure
  - First: two investigators double-coded the ads in blocks of 30-50 ads.
  - Second, ads coded with less than 60% were discussed with the lead investigator until consensus was reached.
Main themes

<table>
<thead>
<tr>
<th>Life style oriented:</th>
<th>Focus on values, beliefs, social connections.</th>
</tr>
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<tbody>
<tr>
<td>Product oriented:</td>
<td>Centered on product attributes.</td>
</tr>
<tr>
<td>Normalization:</td>
<td>Promotes integration of marijuana into society’s norms</td>
</tr>
</tbody>
</table>
Marijuana products

Lifestyles

Life in nature:
- Contemplation: Relaxation
- Outdoors activities: adventure, risk
Marijuana products

Products:

- Purity
- Flavor
- “Clean” production
Delivery Devices

Lifestyle
- Sexual connotations

Product:
- Sophistication and elegance
Marijuana retail stores

Normalization:
- Holidays
- Mainstream occasions

Products:
- Prices
- Promotions
- Trust
What about the stoner?

Lifestyle:

“Stoner” was not forgotten neither emphasized.
Why these findings matter

• Content in freely available magazines – elements attractive to youth

• Normalization – anytime is the right time
Alcohol: party, anonymity, sports
Education campaigns

- Inform media literacy
- Inform messaging

Reminders:
- Rapidly changing environment
- Specific to WA
Future research directions

- Developing and testing interventions to minimize advertisement effects on vulnerable populations:
  - Policy level
  - Education: Media literacy specific to MJ ads
  - CBPR: involving communities on assessing ad exposure

- Exposure – which content?
  - Impact on risk perception, use and perceived norms.
Acknowledgments

This work and my participation in this summit was supported by the UW Alcohol & Drug Abuse Institute (ADAI), using funds from the Washington State Dedicated Marijuana Fund for research at the University of Washington.

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Bia Carlini, PhD, MPH
Bia@uw.edu