Development of the Alcohol Marketing Assessment Rating Tool (AMART)

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Assessing Alcohol Advertising Content

• Numerous compliance studies of alcohol advertising have been published

• Noel et al., 2017 (See Addiction Supplement – January 2017)
  • Reviewed 19 studies (published in 1991-2016) that compared alcohol advertising to a relevant alcohol marketing code
  • Violations of the content guidelines of these codes are prevalent in television advertising and in digital content
  • 15 of the studies concluded self-regulation was ineffective
  • None concluded that self-regulation was effective
Assessing Alcohol Advertising Content

- Self-regulation of alcohol advertising remains the preferred regulatory method by the alcohol industry and many regulatory agencies
  - Despite repeated findings of poor compliance
  - Despite repeated conclusions that alcohol advertising increases alcohol use in youth (Anderson et al., 2009; Smith and Foxcroft, 2009; Jernigan et al., 2017)
- Why?
Assessing Alcohol Advertising Content

• There are inherent limitations in the ways in which alcohol marketing is monitored and studied (Noel et al., 2017)
  • Each publication uses different methods and data
  • Each country uses a slightly different set of marketing guidelines
  • Each investigator uses a different assessment tool

• Cross-study, cross-media, and cross-country comparisons are difficult
A General Set of Marketing Guidelines

Guiding Principles
Self-Regulation of Marketing Communications for Beverage Alcohol

• The Guiding Principles were created by ICAP, now known as IARD (International Alliance for Responsible Drinking)
• IARD is an alcohol industry funded organization
• All major alcohol producers agreed to follow the guidelines set forth in the Guiding Principles
• The Guiding Principles are intended to apply to all alcohol marketing in all media
A General Method for Evaluating Advertising

• Babor and colleagues created a set of questions derived from the industry’s alcohol marketing codes and established their reliability and validity (Babor et al., 2008)

• The Delphi method was used as a means of document code violations
  • The Delphi method is an iterative process to build group consensus among public health professionals
A General Method for Evaluating Advertising

• Combing the question set with the Delphi method has limited its wider application

• IT SIMPLY TAKES TOO MUCH TIME!
  • Babor et al., 2008 – 58 questions per ad per rater
  • Babor et al., 2013 – 78 questions per ad per rater
  • Noel et al., 2017 and Noel & Babor, 2017 – 75 questions per ad per rater

• Noel & Babor, 2017
  • Evaluated 50 beer ads published on Facebook
  • Took an estimated 21-35 hours of work per rater
Quickly Assessing Alcohol Advertising Content

• The pieces are there
  • A widely accepted set of marketing guidelines
    • IARD’s Guiding Principles
  • A psychometrically sound set of assessment questions
  • A reliable method for evaluating alcohol ads

• Wide-scale surveillance has not occurred because current procedures are not time efficient
Purpose of Developing the AMART

• To develop a short questionnaire that can be rapidly implemented to assess alcohol advertising with results comparable to the longer procedures previously described
Methods

• Secondary analysis of data from 3 studies
  • Exploratory set
    • Noel et al., 2017
      • 41 television ads collected from the US and Canada
      • All ads broadcast during the 2014 FIFA World Cup Tournament
  • Validation sets
    • Robaina et al., 2017
      • The Monitoring Alcohol Marketing in Africa (MAMPA) study
      • 282 television, radio, print, and outdoor ads from 7 different African Countries
    • Noel & Babor, 2017
      • 50 ads published by Bud Light and Budweiser on Facebook
      • All ads published within 1 month of the 2015 NFL Super Bowl

• All ratings were collected in English
Methods

• Questions for the AMART were taken from a 37 item questionnaire
  • The questions were previously validated and adapted to ICAP’s/IARD’s
    Guiding Principles

• Three methods of identifying questions
  • Expert consensus
  • Prevalence of non-compliance
  • Random selection
Methods

• Reliability was assessed using Cohen’s Kappa
  • Kappa > 0.8 was considered ideal

• Validity was assessed using sensitivity, specificity, PPV, and NPV

• Outcome = Compliance with the Guiding Principles
  • The “Gold Standard” was the compliance status when using the full 37 item questionnaire

• Each question was also assessed for reliability using intra-class correlations
Results

- Expert consensus identified 9 potential questions to use in the AMART
- Each question demonstrated high reliability in each study
  - $ICC_{range} = 0.85 - 0.99$

<table>
<thead>
<tr>
<th>Question</th>
<th>Guideline Covered</th>
<th>ICC (FIFA)</th>
<th>ICC (Facebook)</th>
<th>ICC (MAMPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) This ad shows situations where people are drinking an alcoholic beverage excessively, or otherwise encourages immoderate consumption.</td>
<td>2</td>
<td>0.94</td>
<td>0.94</td>
<td>0.99</td>
</tr>
<tr>
<td>2) This ad uses symbols, language, music, gestures, or cartoon characters that are associated with or are intended to appeal primarily to persons below legal purchase age.</td>
<td>4</td>
<td>0.91</td>
<td>0.91</td>
<td>0.99</td>
</tr>
<tr>
<td>3) This ad suggests that drinking leads to an exciting adventurous life.</td>
<td>5</td>
<td>0.97</td>
<td>0.95</td>
<td>0.99</td>
</tr>
<tr>
<td>4) This ad associates social, professional, mental, educational, athletic or financial success with drinking the alcohol product.</td>
<td>5</td>
<td>0.95</td>
<td>0.92</td>
<td>0.99</td>
</tr>
<tr>
<td>5) This ad shows or suggests the use of an alcohol product before or during activities requiring sobriety or a high degree of alertness or coordination, such as driving an automobile, operating machinery, boats, working in a hazardous situation, playing sports, etc.</td>
<td>3</td>
<td>0.91</td>
<td>0.93</td>
<td>0.98</td>
</tr>
<tr>
<td>6) This ad shows illegal activity.</td>
<td>1</td>
<td>0.93</td>
<td>0.85</td>
<td>0.99</td>
</tr>
<tr>
<td>7) The ad depicts or appears to be addressed to at-risk groups, such as pregnant women, women of childbearing age, people under legal purchase age, college students, ethnic minorities, alcoholics, or other vulnerable groups.</td>
<td>3</td>
<td>0.90</td>
<td>0.89</td>
<td>0.99</td>
</tr>
<tr>
<td>8) How old do you think the youngest person in this ad is?</td>
<td>4</td>
<td>0.98</td>
<td>0.99</td>
<td>0.88</td>
</tr>
<tr>
<td>9) How many drinks do you estimate this person is likely to consume in the situation shown in the ad?</td>
<td>2</td>
<td>0.96</td>
<td>0.95</td>
<td>0.88</td>
</tr>
</tbody>
</table>
The Expert selected questions performed better than any other question set at identifying violations in the Exploratory set of ads.

<table>
<thead>
<tr>
<th>Question Set</th>
<th>Kappa</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert Consensus</td>
<td>0.92</td>
<td>0.97</td>
<td>1.0</td>
<td>1.0</td>
<td>0.88</td>
</tr>
<tr>
<td>Most Often Violated</td>
<td>0.69</td>
<td>0.91</td>
<td>0.86</td>
<td>0.97</td>
<td>0.67</td>
</tr>
<tr>
<td>Random 18</td>
<td>0.63</td>
<td>0.88</td>
<td>0.86</td>
<td>0.97</td>
<td>0.60</td>
</tr>
<tr>
<td>Random 14</td>
<td>0.58</td>
<td>0.85</td>
<td>0.86</td>
<td>0.97</td>
<td>0.55</td>
</tr>
<tr>
<td>Random 15</td>
<td>0.58</td>
<td>0.85</td>
<td>0.86</td>
<td>0.97</td>
<td>0.55</td>
</tr>
<tr>
<td>Random 30</td>
<td>0.58</td>
<td>0.85</td>
<td>0.86</td>
<td>0.97</td>
<td>0.55</td>
</tr>
<tr>
<td>Random 31</td>
<td>0.58</td>
<td>0.85</td>
<td>0.86</td>
<td>0.97</td>
<td>0.55</td>
</tr>
<tr>
<td>Random 38</td>
<td>0.58</td>
<td>0.85</td>
<td>0.86</td>
<td>0.97</td>
<td>0.55</td>
</tr>
<tr>
<td>Random 49</td>
<td>0.58</td>
<td>0.85</td>
<td>0.86</td>
<td>0.97</td>
<td>0.55</td>
</tr>
<tr>
<td>Random 8</td>
<td>0.53</td>
<td>0.82</td>
<td>0.86</td>
<td>0.97</td>
<td>0.50</td>
</tr>
<tr>
<td>Random 12</td>
<td>0.53</td>
<td>0.82</td>
<td>0.86</td>
<td>0.97</td>
<td>0.50</td>
</tr>
<tr>
<td>Random 23</td>
<td>0.53</td>
<td>0.82</td>
<td>0.86</td>
<td>0.97</td>
<td>0.50</td>
</tr>
</tbody>
</table>
Results

- Similar performance of the Expert questions was noted in the Validation sets of ads

<table>
<thead>
<tr>
<th>Variables</th>
<th>Full Questionnaire</th>
<th>AMART</th>
<th>Kappa</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIFA</td>
<td></td>
<td></td>
<td>0.92</td>
<td>0.97</td>
<td>1.0</td>
<td>1.0</td>
<td>0.88</td>
</tr>
<tr>
<td>Total Number of Ads</td>
<td>41</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numbers of Ads with a Code Violation</td>
<td>34</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code Violation Rate (%)</td>
<td>82.9</td>
<td>80.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facebook</td>
<td></td>
<td></td>
<td>0.94</td>
<td>0.98</td>
<td>1.0</td>
<td>1.0</td>
<td>0.90</td>
</tr>
<tr>
<td>Total Number of Ads</td>
<td>50</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numbers of Ads with a Code Violation</td>
<td>41</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code Violation Rate (%)</td>
<td>82.0</td>
<td>80.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAMPA</td>
<td></td>
<td></td>
<td>0.71</td>
<td>0.63</td>
<td>1.0</td>
<td>1.0</td>
<td>0.86</td>
</tr>
<tr>
<td>Total Number of Ads</td>
<td>282</td>
<td>282</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numbers of Ads with a Code Violation</td>
<td>78</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code Violation Rate (%)</td>
<td>27.7</td>
<td>17.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Types of Violations Detected

1) This ad shows situations where people are drinking an alcoholic beverage excessively, or otherwise encourages immoderate consumption.
   • Guideline 2
Types of Violations Detected

2) This ad uses symbols, language, music, gestures, or cartoon characters that are associated with or are intended to appeal primarily to persons below legal purchase age.
   • Guideline 4

7) The ad depicts or appears to be addressed to at-risk groups, such as pregnant women, women of childbearing age, people under legal purchase age, college students, ethnic minorities, alcoholics, or other vulnerable groups.
   • Guideline 3
Types of Violations Detected

3) This ad suggests that drinking leads to an exciting adventurous life.
   • Guideline 5
Types of Violations Detected

4) This ad associates social, professional, mental, educational, athletic or financial success with drinking the alcohol product.
   • Guideline 5
5) This ad shows or suggests the use of an alcohol product before or during activities requiring sobriety or a high degree of alertness or coordination, such as driving an automobile, operating machinery, boats, working in a hazardous situation, playing sports, etc.

- Guideline 3
Types of Violations Detected

6) This ad shows illegal activity.
   • Guideline 1
Types of Violations Detected

8) How old do you think the youngest person in this ad is?
   • Guideline 4
Types of Violations Detected

9) How many drinks do you estimate this person is likely to consume in the situation shown in the ad?
   • Guideline 2
Conclusions

• The features of the AMART make it an ideal screening tool to be used in an alcohol marketing surveillance system
  • Shorter
    • 9 v. 30+ items
  • Included items are highly reliable across raters
    • Likely only 1 round of ratings
  • Ratings are reliable and valid when compared to the full questionnaire
Strengths

• The AMART performed well with alcohol ads published on a wide variety of media
  • TV, radio, print, outdoor, and digital
• The AMART performed well with alcohol ads published in numerous countries
  • Canada, the Gambia, Ghana, Kenya, Malawi, Namibia, Uganda, the United States
• Unlikely to have any false positives
Recommendations

• Include the AMART in any alcohol marketing surveillance system
  • Surveillance system should include an independent, 3rd party review panel
Limitations

- The AMART is a conservative measure of ad violations
  - Violation rates will be underestimated
- There is no granularity in the violation
  - A violation is present but it may not be possible to identify the specific regulation that is violated
- Ad evaluations were only conducted with Expert raters
  - Different results may occur with laypersons
- The AMART was only tested on English ads
- Performance may suffer when there is low prevalence of ad violations
Acknowledgements

• All the raters who participated in each of the studies