

EFFECTS OF MODELS' AGE ON EFFECTIVENESS OF SOCIAL MEDIA ADVERTISING OF ALCOHOL AMONG UNDERAGE MINORS

Saleem Alhabash, Department of Advertising + Public Relations, Michigan State University, 404 Wilson Road, East Lansing, MI 48824-1212, sa@msu.edu

Kristen Lynch, Department of Advertising + Public Relations, Michigan State University, 404 Wilson Road, East Lansing, MI 48824-1212, lynchkr3@msu.edu

Juan Mundel, College of Communication, DePaul University, 14 E. Jackson Blvd., Chicago, IL 60604, jmundel@depaul.edu

Anna McAlister, Gerrish School of Business, Endicott College, 376 Hale Street, Beverly, MA 01915, amcalist@endicott.edu

Elizabeth Taylor Quilliam, Department of Advertising + Public Relations, Michigan State University, 404 Wilson Road, East Lansing, MI 48824-1212, quilliam@msu.edu

Jef I. Richards, Department of Advertising + Public Relations, Michigan State University, 404 Wilson Road, East Lansing, MI 48824-1212, jef@msu.edu

ABSTRACT

The study used a 2 (beverage type: alcoholic vs. non-alcoholic) x 2 (models' age: younger than 21 vs. 21 to 24 vs. older than 30 years old) x 3 (ad/brand repetition) between-subjects design, where participants, recruited through a nationally-representative sample, self-reported their ad-induced attitudes toward the ads, attitudes toward the brand, viral behavioral intentions, and purchase intentions following exposure to Instagram ads of alcoholic or non-alcoholic beverage that varied in the models' age. Findings showed that participants allocated more cognitive resource to processing alcoholic beverage ads with younger than older looking models.

Keywords: models' age, social cognitive theory, advertising, social media, alcohol use.

INTRODUCTION

Alcohol is the gateway abused substance for most young people [19]. The 2013 National Survey on Drug Use and Health (NSDUH) found that about 5.4 million Americans aged 12-20 engaged in heavy episodic drinking, and 1.4 million engaged in heavy drinking [18]. Alcohol abuse among youth is influenced by a cultural environment where drinking is seen as a normal or even favorable activity celebrated through popular culture [9, 8, 17]. Advertisers often promote alcohol products through ads that feature youthful, physically attractive, successful, and adventurous models, which allows consumers to become symbolically invested with the positive attributes of the brand [4]. Given that congruence between the age of the models in alcohol advertising and consumers' cognitive age can result in more favorable evaluations of advertisements and brands [7], this study investigates the effects of social media alcohol advertising featuring models of different ages among underage youth.

Recognizing that alcohol advertising greatly influences young people's perceptions and attitudes toward alcohol use [8], a growing body of literature [e.g. 1, 5, 8] tackled the impact of alcohol advertising on youth's health. There is ample evidence that both underage consumers, and those barely within legal age for alcohol purchases, are in the formative stages of their consumption behaviors and are influenced by alcohol marketing practices [e.g. 12, 15, 16]. Research on people aged 11-26 has found positive relationships between consumption of alcohol and exposure to marketing of those products.

While the three self-regulatory alcohol associations in the United States (i.e., Beer Institute, Distilled Spirits Council, and the Wine Institute) have taken actions to regulate alcohol advertising practices in relation to exposure among youth, these regulations are either vague or vastly ignored when it comes to digital and social media. Alcohol marketers are increasingly investing in social media advertising not only because of their convenience and competitive prices [2], but also because of powerful impact of electronic word-of-mouth (eWOM) that is heightened via social media, where consumers become ad-hoc brand ambassadors, spreading the word about a particular brand [13]. The alcohol industry further refrained from including any model in an alcohol ad or other marketing activity who was younger than 25 years old. However, the Beer Institute's Advertising and Marketing Code recently changed the guideline for the model's age in alcohol advertisements, where the guideline no longer applies to athletes, entertainers, and celebrities [10]. The logic behind not involving models whose age is younger than 25 would be to alleviate the effects of young-looking models on underage drinking. Nonetheless, perceived age of models is ambiguous, therefore, understanding how underage consumers respond to advertisements with models of varying ages is critical to examining the influence of alcohol advertising on consumers' attitudes and behavioral desires.

The issue of models' age is even more problematic on social media, where users take it upon themselves to engage in eWOM to promote alcohol brands and drinking behaviors. Previous studies found that exposure to alcohol ads on social media increases intentions and the likelihood (i.e., selection of a gift card for a bar rather than a coffee shop) to consume alcohol, [1]. With previous evidence [3] showcasing a relationship between exposure and interaction with alcohol-related content on social media and drinking intentions and behaviors, we argue that regulations are needed for alcohol marketing on social media. Thus, this study investigates how the perceived age of models included in social media advertising affects intentions to drink among underage youth. To this end, we exposed respondents to ads featuring younger- and older-looking models and measured their intentions to consume alcohol.

METHOD

Experimental Design and Procedure

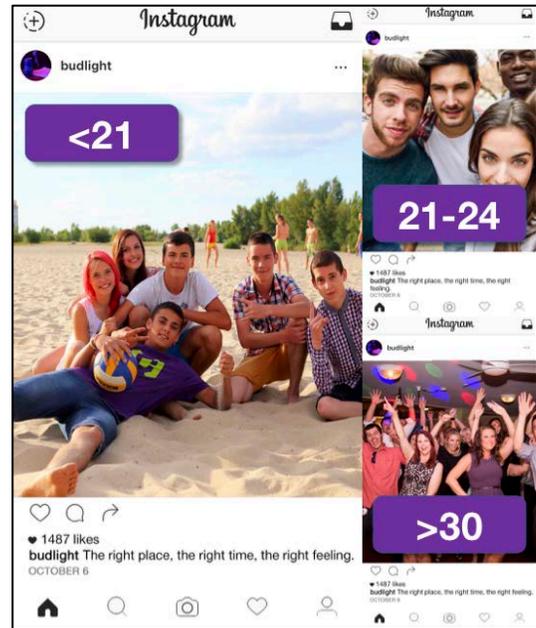
The study used a 2 (beverage type: alcoholic vs. non-alcoholic) x 3 (models' age: younger than 21 vs. 21-24 vs. above 30 years old) x 3 (message repetition) between-subject design. Participants ($N = 1,082$) were recruited from through Qualtrics Panels. Half of the sample was nationally-representative, and the other half focused on the State of Michigan. Participants were between the ages of 18 and 20. The sample was mostly female (64%) and white (65%). The majority of participants also indicated that they consumed an alcoholic drink the last time they partied/socialized (62%). Participants were rewarded in accordance with Qualtrics Panels incentive mechanism.

Independent Variables, Stimuli Design, & Dependent Variables

The study manipulated the type of beverage and the models' age in three Instagram advertisements to which participants were exposed. To manipulate beverage type, we selected three leading beer brands (Bud Light, Coors Light, and Miller Lite) and three leading soda brands (Dr. Pepper, Mountain Dew, and Pepsi) following a pretest with an independent sample. We included familiar brands to ensure realism of our stimuli. To manipulate models age, we pretested ($N = 104$) pictures with groups of individuals that varied in age. The selected pictures differed significantly in estimations of age, and were comparable

across models' age groups in terms of perceived attractiveness, attitudes toward the models, valence (positive and negativity) and arousal—all measured using seven-point Likert-type or semantic differential scales. We created uniform Instagram ads (see Figure 1) that were comparable on ad copy. Ads varied as a function of the brand posting the ad (beer vs. soda) and the picture representing the age manipulation. Each participant was exposed to three brand ads in the same beverage type x age treatment level. Following exposure to each ad, participants rated their attitudes toward the ad (Aad) and attitudes toward the brand (three items rated on a seven-point semantic differential scale: negative/positive, bad/good, and unfavorable/favorable) [14], viral behavioral intentions (VBI; six seven-point Likert-type scale items; e.g., "I will 'like' this ad on Instagram) [1], and intentions to consume alcohol (six seven-point Likert-type scale items; e.g., Seeing this ad makes me want to have an alcoholic drink) [3]. All variables were reliable; items were averaged per ad for each participant.

FIGURE 1. EXPERIMENTAL



RESULTS

Effects of Models' Age and Beverage Type on Ad Effectiveness

As shown in Table 1 and Figure 1, participants consistently evaluated soda products and ads more favorably than beer products and ads, except for ICA, where participants expressed greater ICA upon exposure to beer than soda ads. Results also show significant main effects of models' age (except for VBI), with models aged 21-24 resulting in greater ad effectiveness. Finally, significant two-way interactions between beverage type and models' age showed greater persuasiveness for ads with older-looking models (21-24 and above 30) compared to those with teenage-looking models.

FIGURE 2. MAIN (TOP) & INTERACTION (BOTTOM) EFFECTS

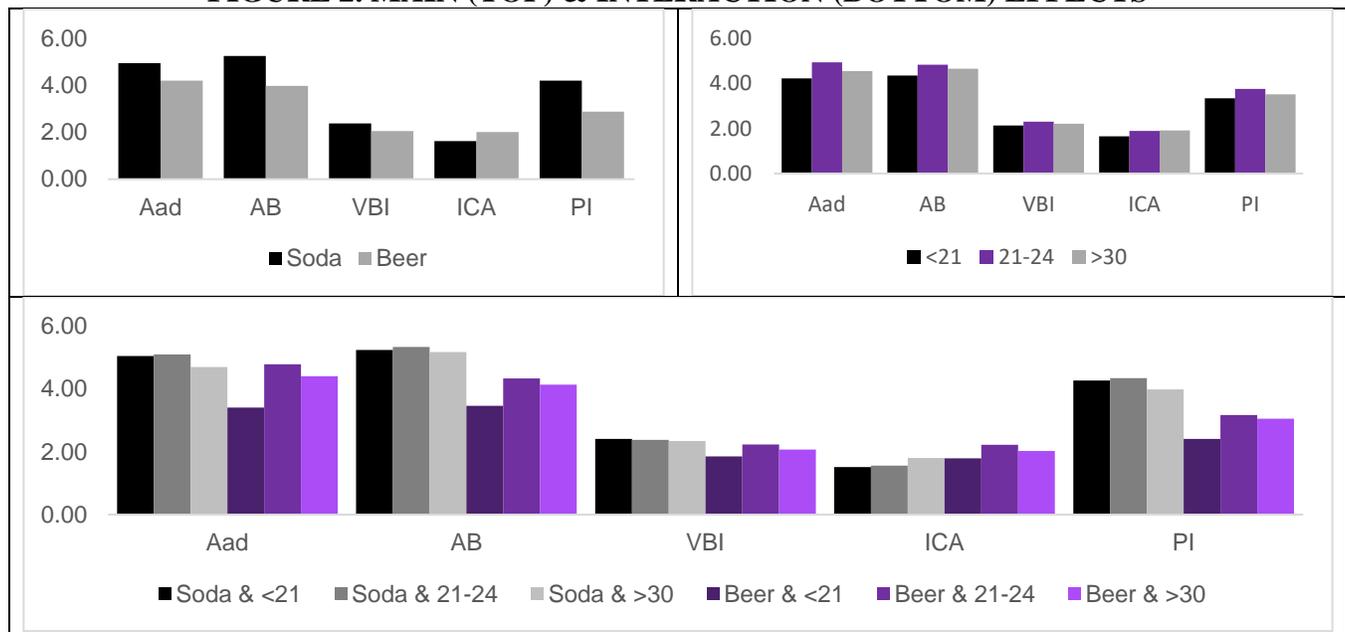


TABLE 1. MAIN & INTERACTION EFFECTS OF BEVERAGE TYPE & MODELS' AGE

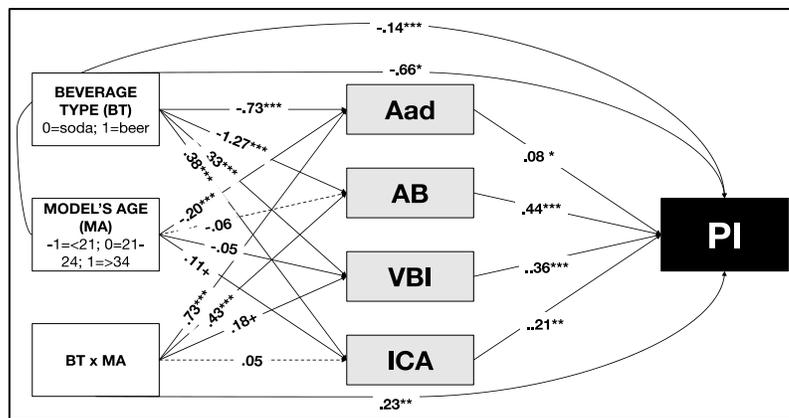
| | Aad | AB | VBI | ICA | PI |
|--------------------|--|---|--|---|---|
| Beverage Type (BT) | $F(1, 1076) = 84.00, p < .001, \eta^2_p = .07$ | $F(1, 1076) = 241.42, p < .001, \eta^2_p = .18$ | $F(1, 1076) = 17.07, p < .001, \eta^2_p = .02$ | $F(1, 1076) = 27.561, p < .001, \eta^2_p = .03$ | $F(1, 1076) = 186.76, p < .001, \eta^2_p = .15$ |
| Models' Age (MA) | $F(2, 1076) = 26.03, p < .001, \eta^2_p = .05$ | $F(2, 1076) = 12.22, p < .001, \eta^2_p = .02$ | $F(2, 1076) = 1.65, ns$ | $F(2, 1076) = 5.13, p < .01, \eta^2_p = .01$ | $F(2, 1076) = 6.36, p < .01, \eta^2_p = .01$ |
| BT x MA | $F(2, 1076) = 29.97, p < .001, \eta^2_p = .05$ | $F(2, 1076) = 9.65, p < .001, \eta^2_p = .02$ | $F(2, 1076) = 2.43, p = .089, \eta^2_p = .01$ | $F(2, 1076) = 3.47, p < .05, \eta^2_p = .01$ | $F(2, 1076) = 8.18, p < .001, \eta^2_p = .02$ |

Notes. Aad = Attitudes toward the Ad; AB = Attitudes toward the Brand; VBI = Viral Behavioral Intentions; ICA = Intentions to Consume Alcohol; PI = Purchase Intentions

Moderated Mediation Modeling

As shown in Table 2 and Figure 2, we conducted a path model analysis, using Hayes (2013) PROCESS Model 8, to investigate the effect of beverage type and models' age on purchase intentions (PI), as mediated by attitudes toward the ad (Aad), attitudes toward the brand (AB), viral behavioral intentions (VBI), and intentions to consume alcohol (ICA). With regard to the moderated mediation effects, our findings showed that the effect of beverage type on PI was mediated through Aad, with a stronger effect for ads including models aged below 21, compared to the two other conditions. This trend sustained for AB and VBI, yet with the mediation effect non-significant for the group seeing ads by models who looked older than 34 years old. Specific to the effect of ICA as a mediator, our results show that the mediation effect is strongest among the group seeing ads with older-looking models (34 and above), compared to the two other conditions. In other words, participants expressed greater intention to consume alcohol upon seeing beer than soda ads, which in turn increased their likelihood to desire purchasing the advertised product. More importantly, this trend was strongest when the models looked older than 34 years old.

FIGURE 2. MODERATED MEDIATION MODEL



DICUSSION

Given that alcohol advertisers are keen on targeting this specific population as they are the 'next-in-line' to be loyal consumers of their brands, the results of this study provide important findings that could be used to reshape regulatory mechanisms related to advertising of alcohol via social media. In summary, our findings showed that despite the fact that underage youth reported greater effectiveness for soda product ads (all dependent measures except ICA), exposure to an alcoholic-beverage ad motivated participants to express greater intentions to consume alcohol. This is critical from a public health perspective as incidental exposure to alcohol advertising increases the intentions to engage in risky behaviors related to alcohol consumption. The other important finding from our study deals with both the main effect of models' age and its interaction with beverage type. Despite our argument from social cognitive theory that predicted greater persuasiveness of ads with models close to the participants' age

(under 21 years old), our findings showed that it is the ads with the next-up generational group (21-24 years old) that was most effective in nearly all cases, and across different beverage types. Specific to ICA and PI, our findings showed that while in the soda conditions, the younger age groups were more influential, participants assigned to view beer ads reported greater ICA and PI upon exposure to ads with older-looking models (both 21-24 and above 30 years old). But while common sense might suggest a policy preventing depiction of models who appear to be below legal drinking age, our findings suggest it is not models who appear underage that present the greatest appeal to these underage consumers, rather it is the depiction of models who appear to be just over 21 that most appeal to these young people. This is problematic as self-regulatory mechanisms prohibit advertisers from including models that are younger than 25 years old. Our findings showed a significant effect of not how actually the models were aged, but rather how old they looked. Our findings are also telling of the effects of source characteristics in persuading underage minors, who are at a particular stage of cognitive development. This has managerial implications for targeting young consumers with messages that most appeal to them.

In summary, our study showed that while underage youth expressed modest alcohol use and purchase intentions following beer ads, the sheer exposure to alcohol advertising made a difference in their readiness to enact such behaviors. Our findings also highlight the important role of *who* is promoting alcohol use via promotional social media content, where an age group not older by far from our sample and not similar in age was most effective in terms of driving alcohol use and purchase intentions.

TABLE 2. MODERATED MEDIATION ANALYSIS RESULTS

| Predictor | Aad | AB | VBI | ICA | PI |
|-------------------------|--|--|------------------------------------|--|--|
| Constant | 5.09 (.22) *** | 5.05 (.22) *** | 2.16 (.21) *** | .60 (.18) ** | -.41 (.22) † |
| Beverage Type (BT) | -.73 (.08) *** | -1.27 (.08) *** | -.33 (.08) *** | .38 (.07) *** | -.66 (.08) *** |
| Models' Age (MA) | -.20 (.07) ** | -.06 (.07) | -.05 (.07) | .11 (.06) † | -.14 (.06) ** |
| BT x MA | .73 (.10) *** | .43 (.10) *** | .18 (.10) † | .05 (.09) | .23 (.08) n** |
| Aad | -- | -- | -- | -- | .08 (.03) * |
| AB | -- | -- | -- | -- | .44 (.03) *** |
| VBI | -- | -- | -- | -- | .36 (.03) *** |
| ICA | -- | -- | -- | -- | .21 (.04) *** |
| Gender | -.09 (.08) | -.01 (.08) | .11 (.08) | .21 (.07) ** | .23 (.06) *** |
| Race | -.19 (.09) * | -.14 (.09) | -.12 (.09) | -.03 (.08) | .03 (.07) |
| AUDIT | .19 (.05) *** | .28 (.04) *** | .17 (.04) *** | .45 (.04) *** | .19 (.04) *** |
| Model Statistics | $R^2 = .13, F(6, 1074) = 25.57$ *** | $R^2 = .22, F(6, 1074) = 51.08$ *** | $R^2 = .03, F(6, 1074) = 6.35$ *** | $R^2 = .15, F(6, 1074) = 32.58$ *** | $R^2 = .62, F(10, 1070) = 171.67$ *** |

Conditional Direct Effects of Beverage Type on PI at Models' Age Levels

| Models' Age Levels | Effect | SE | t | p | CI _{LL-UL} |
|--------------------|--------|-----|-------|--------|---------------------|
| Younger than 21 | -.85 | .10 | -8.20 | < .001 | -1.06 to -.65 |
| 21-24 | -.67 | .08 | -8.83 | < .001 | -.82 to -.52 |
| 34 or older | -.48 | .10 | -4.88 | <.001 | -.68 to -.29 |

Conditional Indirect Effects of Beverage Type on PI at Models' Age Levels

| | Aad | | | AB | | |
|------------------------|--------|---------|--------------------------|--------|---------|--------------------------|
| | Effect | Boot SE | Boot CI _{LL-UL} | Effect | Boot SE | Boot CI _{LL-UL} |
| Younger than 21 | -.10 | .05 | -.21 to -.01 | -.72 | .08 | -.88 to -.57 |
| 21-24 | -.05 | .03 | -.12 to -.004 | -.57 | .06 | -.69 to -.45 |
| 30 or older | -.01 | .01 | -.05 to .002 | -.41 | .06 | -.54 to -.30 |
| | VBI | | | ICA | | |
| Younger than 21 | -.17 | .04 | -.26 to -.10 | .07 | .02 | .03 to .13 |
| 21-24 | -.12 | .03 | -.19 to -.06 | .08 | .03 | .04 to .13 |
| 30 or older | -.07 | .04 | -.15 to .01 | .09 | .03 | .04 to .15 |

Notes. Aad = Attitudes toward the Ad; AB = Attitudes toward the Brand; VBI = Viral Behavioral Intentions; ICA = Intentions to Consume Alcohol; PI = Purchase Intentions; * $p < .05$; ** $p < .01$; *** $p < .001$

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