



## Original article

## Risky Messages in Alcohol Advertising, 2003–2007: Results From Content Analysis

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## A B S T R A C T

**Purpose:** To assess the content of alcohol advertising in youth-oriented U.S. magazines, with specific attention to subject matter pertaining to risk and sexual connotations and to youth exposure to these ads.

**Methods:** This study consisted of a content analysis of a census of 1,261 unique alcohol advertisements (“creatives”) recurring 2,638 times (“occurrences”) in 11 U.S. magazines with disproportionately youthful readerships between 2003 and 2007. Advertisements were assessed for content relevant to injury, overconsumption, addiction, and violations of industry guidelines (termed “risk” codes), as well as for sexism and sexual activity.

**Results:** During the 5-year study period, more than one-quarter of occurrences contained content pertaining to risk, sexism, or sexual activity. Problematic content was concentrated in a minority of brands, mainly beer and spirits brands. Those brands with higher youth-to-adult viewership ratios were significantly more likely to have a higher percentage of occurrences with addiction content and violations of industry guidelines. Ads with violations of industry guidelines were more likely to be found in magazines with higher youth readerships.

**Conclusions:** The prevalence of problematic content in magazine alcohol advertisements is concentrated in advertising for beer and spirits brands, and violations of industry guidelines and addiction content appear to increase with the size of youth readerships, suggesting that individuals aged <21 years may be more likely to see such problematic content than adults.

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IMPLICATIONS AND  
CONTRIBUTION

This study analyzes a large census sample of alcohol advertisements in magazines with disproportionately youthful readerships over a 5-year period. It demonstrates for the first time significant relationships between problematic advertising content (related to alcohol addiction and violations of voluntary industry marketing codes) and measures of youth viewership.

Injuries are the leading cause of death among persons aged 1–44 years [1]. Alcohol consumption plays a substantial role in injury: of the approximately 79,000 deaths caused by alcohol in the United States each year, 55% are attributable to injury [2]. According to a recent meta-analysis, alcohol consumption is involved in 26.2%–62.5% of visits to trauma centers, with an aggregate weighted estimate of 32.5% [3]. Alcohol consumption also causes >4,600 deaths annually among young people aged 12–20 years [2], and is associated with the three leading causes of death among youth: motor vehicle crashes, homicide, and

suicide [4]. Numerous studies have found that exposure to alcohol advertising and marketing is an important influence in shaping young people's expectations and behavior regarding alcohol use [5,6]. When young people perceive the models and situations in alcohol advertising as desirable, they are more likely to want to emulate them and to hold positive expectancies about what will happen when they drink, which in turn is related to likelihood of drinking [7].

The primary means by which the content of alcohol advertising is regulated is through voluntary codes of good marketing practice administered by the trade associations for the three principal branches of the alcohol industry: the Beer Institute [8], the Distilled Spirits Council of the United States [9], and the Wine Institute [10]. These codes (which we term “guidelines” for clarity) forbid portraying alcohol consumption in conjunction with

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risky activities such as driving a car or anything “requiring a high degree of alertness or physical coordination.” However, advertising is permitted to show such activities, as long as the person engaging in the behavior is not consuming alcohol in the advertisement.

Although previous efforts have been made to analyze the content of alcohol advertising [11–13], there has been no attempt to quantify or categorize the risky behaviors depicted in alcohol advertising since 2000 [12]. Further, the relationship of risky content to youth exposure has never been studied. To this end, we analyzed a census of 1,261 unique alcohol advertising creative executions appearing over a 5-year period in 11 magazines with disproportionately youthful audiences. Ethnographic content analysis (ECA) [14] was used to examine how often alcohol advertisements portrayed risky behaviors. In addition, we examined the advertisements for other examples of violations of industry guidelines, and for other salient features of the content that could be expected to influence the desirability of the advertisements in the eyes of young people.

## Methods

### Data collection

The 11 magazines selected for sampling reflected our focus on youth audiences. Thus, our sample consisted of nine magazines with youth (age: 12–20 years) audiences equaling or exceeding 15% (the maximum youth audience “placement standard” for alcohol companies recommended by the Institute of Medicine [15]) during at least 1 year of data collection. These magazines were *Cosmopolitan*, *Entertainment Weekly*, *ESPN The Magazine*, *In Style*, *Maxim*, *Rolling Stone*, *Sports Illustrated*, *Stuff*, and *Vibe*. An additional two magazines, *Maxim en Español* and *XXL*, were also selected for sampling. Although their youth audiences remain unmeasured, we included these magazines because we suspected higher-than-average youth audiences based on the demographics of the parent publication (in the case of *Maxim en Español*) and similarity in content to other youth-oriented publications (in the case of *XXL*). These two magazines are specifically targeted to Latino and black readerships [16], respectively. During the study period, those magazines with available audience data had an average annual audience ranging from approximately 5.70 million (*Stuff*) to 23.74 million (*Sports Illustrated*) among the population aged 12 years and older, and from 1.29 million (*Stuff*) to 5.27 million (*Sports Illustrated*) among young people aged 12–20 years [17].

Between January 1, 2003 and December 31, 2007, alcohol advertisements were collected from the print editions of these magazines. An alcohol advertisement was considered eligible if its primary focus was the promotion of an alcoholic product; thus, alcohol company ads focusing primarily on responsible drinking without mention of a product were excluded. Each unique execution, or “creative,” was analyzed once, although a creative might reappear several times (termed “occurrences”). We recorded each occurrence to track creatives that occurred multiple times, potentially in different years or in different magazines.

For each publication, we applied coterminous annual average youth and adult audience data from magazine readership surveys conducted by Mediarmark Research (GfK MRI), a widely used source for audience information. A full description of the Media-

mark methodology is available in reports published by the Center on Alcohol Marketing and Youth at <http://www.camy.org>.

### Coding scheme

The protocol for coding ads consisted of several components. First, one coder (E.R.) coded each ad for “structural components” [11], such as the alcohol type (alcopops, beer, spirits, wine), brand, and when and where it occurred. “Alcopops” are also referred to as “low-alcohol refreshers,” “malternatives,” or “flavored malt beverages.” During the time of this analysis, many of the brands in this category had alcohol contents of between 4% and 6%, similar to most traditional malt beverages [18]. Next, we coded ads for four risk codes, two arising from previous research and two that we identified as having clear health and safety implications. The former comprised what we termed “injury content”—drawn from Austin and Hust [12], who used the term “risky activities” to identify depictions of models engaged in dangerous behaviors—and “overconsumption content”—drawn from Finn and Strickland’s study on [11] identification of depictions of “heavy or frequent consumption.” The latter two codes that we identified and added to these risk codes were “addiction content” and “violations of industry guidelines.” The coding scheme is outlined in Table 1. Note that although voluntary industry guidelines contain language related to injury, overconsumption, and addiction (although these exact terms are not always used), some researchers have found these codes require further specification to operationalize them [19]. Consequently, we defined these categories more clearly than they are defined in the industry guidelines.

In addition to these risk codes, we coded each ad for its main modes of appealing to the audience. Using Finn and Strickland’s [11] coding scheme for alcohol ads as a conceptual starting point, we applied the iterative reflexive process of ECA. This approach allowed themes to emerge from the data [14] and preserved the context of the advertisements, for instance, those that were part of a “campaign.” Using this process, a fixed coding scheme was developed (Table 1), consisting of the four a priori risk codes and two codes developed through ECA, which we termed sex-related codes. Codes were not mutually exclusive. Once the coding scheme was solidified, its reliability was tested by two coders (E.R. and D.J.) using a subset of 100 creatives, generating Cohen’s  $\kappa$  values [20] (Table 1). Then, the entire data set was reviewed to ensure that each ad was evaluated using this final coding scheme.

### Brand data

To understand to what extent youth audiences were exposed to problematic content, we obtained the ratios of youth to adult exposure from the Center on Alcohol Marketing and Youth for each brand based on Mediarmark data, measured in gross rating points (GRP) generated for youth (age: 12–20 years) versus adult (age:  $\geq 21$  years) audiences. GRP are a per capita measure of advertising exposure based on media research surveys. A brand with a youth-to-adult ratio  $>1$  indicates that young people aged 12–20 years were per capita more likely to see ads for this brand than were adults. GRP ratios were averaged for the 5-year study period; however, for many brands, GRP data were not available for all 5 years of the study period, and thus the average GRP ratio was determined using the year(s) available. Average GRP ratios were applied in the analysis mentioned later in the text.

**Table 1**Coding scheme: Code definitions and Cohen's  $\kappa$  values for inter-rater reliability

Code	Code application	Cohen's $\kappa$
Risk codes		
Injury	When an activity is depicted that might reasonably be thought to increase risk of injury; when an ad implies that physically risky behavior is expected or encouraged while consuming the product	.8530
Overconsumption	When more alcohol is displayed than seems appropriate for the number of models in the ad; when one large empty bottle or many small empty bottles are visually depicted; or when text or images otherwise imply or encourage binge drinking	.6630
Addiction	When an ad depicts or refers to consumers drinking alcohol at inappropriate times of day; when an ad depicts or refers to excuses for drinking; or when an ad otherwise implies prolonged consumption over a period or dependence on the product	1.0000
Violations of industry guidelines	When an ad violates industry's voluntary guidelines (the Beer Institute, DISCUS, or Wine Institute codes)	.6974
Sex-related codes		
Sexism/objectification	When an ad places models of one gender in unusually suggestive poses or with unusually suggestive clothing; when an ad depicts a model of one gender as the product itself or inside a glass; or when an ad comments on a model's appearance or thoughts/intended actions regarding the model	.9155
Sexual connotations	When there is a clear implication of a sexual encounter (usually in the future) between models in the ad or between the viewer and another person	.7140

DISCUS = Distilled Spirits Council of the United States.

### Exposure to youth audience

We posed two questions relating to the youth audience of the brands in the sample and the youth audience of the magazines in the sample. First we asked, "Did brands with higher levels of risky content in their advertising have larger youth audiences for their ads?" To address this question, we evaluated various multiple linear regression models, relating the continuous measure of a brand's average GRP ratio over the 5-year study period to injury, overconsumption, addiction, and violations of industry guidelines as a percentage of the brand's total occurrences over the study period. Because data on GRP ratios were not available for all brands, this analysis was performed on 156 of 183 brands; the composition of these remaining brands by alcohol type revealed that they reflected well the distribution of the overall sample.

Next we asked, "Were individual ads with risk and/or sex-related content more likely to be found in magazines with higher youth readership?" We used a generalized estimating equation model to account for correlations between repeat occurrences of creatives. Such a model generates robust standard errors for the purpose of hypothesis testing. The outcome, percent youth readership of the magazine, was dichotomized (0 for <25%; 1 for  $\geq 25\%$ ). Bivariate models with each of the six risk and sex-related codes were then compared with a full model that included all six predictors. Results were given as odds ratios with 95% confidence intervals, and the minimal change in odds ratios between bivariate and adjusted analyses suggested no interaction between the predictors (Table 5). All statistical analyses were performed in STATA 10 (StataCorp, College Station, TX).

### Results

#### Sample characteristics

The final sample consisted of 1,261 unique creatives that occurred 2,638 times over the 5-year study period. The maximum number of occurrences per creative was 22, with an average of 2.1 occurrences per creative. With approximately two-thirds (65.81%) of all occurrences, spirits were by far the most advertised type of alcohol, followed by beer (28.92%), wine (3.37%), and alcopops (1.90%). Ad occurrences were concentrated among a minority of brands; of 183 brands, the top 10 most advertised brands—a list composed solely of spirits and beer brands—accounted for nearly 30% of all occurrences. Similarly, ads were concentrated in certain magazines: two magazines—*Sports Illustrated* and *Maxim*—comprised >one-third of all occurrences. Six hundred eighty-five occurrences (25.97% of the sample) had one or more risk and/or sex-related codes. All ads with two or more risk codes are accessible to the reader at [http://www.camy.org/ads\\_with\\_2\\_risk\\_codes](http://www.camy.org/ads_with_2_risk_codes).

#### Risk codes

More than 1 in 10 occurrences (299), comprising 120 creatives, exhibited one or more risk codes. Of these, violations of industry guidelines were the most prevalent, comprising 36.45% of total occurrences with risky content (Table 2); all of these were violations of the Beer Institute code or the Distilled Spirits Council of the United States code. Ads exhibiting overconsumption

**Table 2**

Prevalence of creatives and occurrences for each risk code

Code	Unique creatives			All occurrences		
	Number	Percentage of sample	Percentage of all risk codes	Number	Percentage of sample	Percentage of all risk codes
Injury	32	2.54	26.67	80	3.03	26.76
Overconsumption	35	2.78	29.17	89	3.37	29.77
Addiction	21	1.67	17.50	56	2.12	18.73
Violations of industry guidelines	50	3.97	41.67	109	4.13	36.45

**Table 3**

Prevalence of creatives and occurrences with risk and sex-related codes by beverage category

Beverage category	Unique creatives			All occurrences		
	Number	Percentage of total sample	Percentage of total beverage category	Number	Percentage of total sample	Percentage of total beverage category
<b>Risk codes</b>						
Alcopops	8	.63	40.00	24	.91	48.00
Beer	51	4.04	11.97	82	3.11	10.75
Spirits	57	4.52	7.41	188	7.13	10.76
Wine	4	.32	8.70	5	.19	6.49
Total	120	9.52	68.08	299	11.33	76.00
<b>Sexual connotations</b>						
Alcopops	1	.08	5.00	1	.04	2.00
Beer	83	6.58	19.48	128	4.85	16.78
Spirits	60	4.76	7.80	195	7.39	11.16
Wine	4	.32	8.70	5	.19	6.49
Total	148	11.74	40.98	329	12.47	36.42
<b>Sexism/objectification</b>						
Alcopops	1	.08	5.00	5	.19	10.00
Beer	55	4.36	12.91	94	3.56	12.32
Spirits	43	3.41	5.59	114	4.32	6.52
Wine	2	.16	4.35	5	.19	6.49
Total	101	8.01	27.85	218	8.26	35.34

content were the next most prevalent, followed by injury content, and finally addiction content (Table 2).

The prevalence of risky content varied notably by alcohol type. A large percentage of ads for alcopops (48% of alcopops occurrences) exhibited risky content, mainly injury content (Table 3). However, because alcopops' ads comprised a small minority of the sample, the most risky content in the sample was found in ads for spirits, followed by ads for beer. Wine ads contributed to only .19% of the total occurrences with risky content (Table 3).

Of the 183 brands in the sample, 53 produced at least one ad with one or more types of risky content over the 5-year study period. A small number of brands accounted for a large proportion of the ads containing risky content. Ten brands accounted for approximately half (50.84%) of all occurrences coded for some type of risky content. Four brands—Skyy Flavored Vodka (Campari Group, Milan, Italy), Skyy Vodka (Campari Group, Milan, Italy), Skyy Blue (Campari Group, Milan, Italy), and Skyy Sport (Campari Group, Milan, Italy)—accounted for 57.50% of all occurrences coded for injury content. These largely consisted of ads depicting implied alcohol consumption (holding or being handed alcoholic beverages) near bodies of water. Two brands—Cointreau Liqueur (Remy-Cointreau USA, New York, NY) and Skyy Vodka—accounted for 48.32% of all occurrences coded for overconsumption content. This coding was generally merited by the depiction of more alcohol in the ad's scene than appeared appropriate for the number of people in the ad. For instance, Cointreau creatives frequently depicted a woman—alone—holding an oversized bottle of the product. Three brands—Heineken Premium Light (Heineken International, Amsterdam, Netherlands), Stolichnaya Vodka (William Grant & Sons USA, New York, NY), and Absolut Flavored Vodka (Pernod Ricard USA, Purchase, NY)—accounted for 53.57% of all occurrences coded for addiction content. The Heineken Premium Light campaign used the word “irresistible,” as applied to the product, in all its ads. A Stolichnaya Vodka creative with nine occurrences asked, “Is there anything not worth drinking to?” (fulfilling the addiction criterion: “when ad... refers to excuses for drinking”). Finally, some Absolut Flavored Vodka creatives advertised the “taste of temptation.”

Violations of industry guidelines were the most prevalent risk code seen across a variety of brands. Seven brands—Skyy Blue, Christian Brothers Brandy (Heaven Hill Distilleries, Inc., Bardonia, KY), 1800 Reposado (Proximo Spirits, Jersey City, NJ), 1800 Silver (Proximo Spirits, Jersey City, NJ), Alize Liqueur (Kobrand Corp., Purchase, NY), Skyy Vodka, and ads covering multiple Miller products—comprised 53.21% of all occurrences coded for violations of industry guidelines. Violations included ads that portrayed implied consumption of alcohol before or after activities such as snorkeling (Skyy Blue); ads that went beyond general standards of good taste with respect to sexual content (1800 Reposado, 1800 Silver, and Skyy Vodka); ads that highlighted the high alcohol content of the product (Alize Liqueur); and ads that appeared to target a primarily underage readership (Miller Brewing Company ads that advertised both Miller Lite and Miller Genuine Draft). These 2004 Miller ads—four total creatives—prominently featured doodles and chalkboard drawings. It is important to note that each of these brands produced four or fewer creatives with violations of guidelines; in some cases, brands made this list with only one creative that recurred many times. By concentrating our reporting on the most visible brands in terms of occurrences, we have not described brands with a high brand percentage of risky content but only a few occurrences.

#### Sex-related codes

Of the codes identified through ECA, the most common related to sexual connotations or sexism and objectification. Four hundred eighty-three occurrences (18.3% of the sample) had one or more sex-related codes. Sexual connotations were found in 12.5% of the total occurrences. Next most common, “sexism/objectification” was found in 8.3% of occurrences (Table 3); examples of this code included ads in which a woman's body was depicted as part of the product itself (as seen in many St. Pauli Girl creatives depicting the silhouette of a woman as the beer itself); ads in which a woman was depicted inside a glass (as seen in Three Olives Vodka (Proximo Spirits, Jersey City, NJ) creatives in the sample, which pictured women posing in oversized mar-



tini glasses); and ads in which women were placed in unusually suggestive poses or wearing unusually suggestive clothing. Although the coding scheme for sexism/objectification was gender neutral—dictating coding if “models of one gender” met the coding criteria—all ads that were coded for sexism/objectification met these criteria because of their depictions of women rather than of men.

Beer represented the alcohol type with the highest percentage of occurrences exhibiting sexual connotations and/or sexism/objectification content (Table 3). Beer was also the alcohol type with the largest overall number and percentage (as a proportion of the entire sample) of creatives with this type of sex-related content (Table 3), but because of spirits' creatives recurring frequently, spirits brands produced the largest overall number and percentage of occurrences (as a proportion of the entire sample) of sexual connotations and sexism/objectification content. Alcopops and wine each contributed to <.5% of creatives and occurrences with sexual connotations and/or sexism/objectification as a proportion of the entire sample. More than one-quarter of brands (50 brands) produced one or more ads with sexual connotations, and 36 brands produced one or more ads with sexism/objectification.

#### Exposure to youth audience

The majority of brands (102 of the 156 brands for which GRP data were available) had GRP ratios >1, signifying that young people were more likely per capita to see ads for these brands than individuals aged ≥21 years. Of these, 38 (37.26%) also had risky content. The brands with the highest known average GRP ratios over the study period were Bacardi Gold Reserve Rum (Bacardi USA, Inc., Coral Gables, FL), Phillips Union Whiskey (Phillips Distilling Co., Minneapolis, MN), and Navan Cognac (House of Grand Marnier, Paris, France); these had GRP ratios >2, indicating that youth were about twice as likely per capita to see these brands' ads as were adults.

Assessment of multiple linear regression models using Akaike's information criterion [21] resulted in a final model relating brand average GRP ratio to the brand percentage of addiction content and violations of industry guidelines. Higher brand percentage of addiction content and violations of industry guidelines (by occurrences) were positively, and significantly, associated with higher average brand GRP ratio (Table 4). The mean average brand GRP ratio for brands with no addiction content and no violations of guidelines was approximately 1.11, whereas average brand GRP ratio was expected to increase by .007 with each percentage increase in addiction content ( $p = .02$ ), holding guideline violation content constant, and average brand GRP ratio was expected to increase by .005 with each unit change in percentage of violations of industry guidelines ( $p = .01$ ), holding addiction content constant (Table 4). The other risk and sex-

**Table 4**  
Linear regression

Variable (percent of occurrences)	Single		Multiple Model $R^2 = .06$	
	Coefficient ( $\beta$ )	$p$	Coefficient ( $\beta$ )	$p$
Addiction content	.007	.033	.007	.021
Violations of industry guidelines	.005	.018	.005	.012

**Table 5**  
Generalized estimating equation

Variable	Binomial	Adjusted
	Odds ratio (95% confidence interval)	Odds ratio (95% confidence interval)
Injury content	.784 (.408–1.508)	.781 (.387–1.578)
Overconsumption content	.435 (.196–.964)**	.403 (.173–.937)**
Addiction content	1.431 (.715–2.864)	1.395 (.676–2.879)
Violations of industry guidelines	1.585 (.941–2.669)*	2.108 (1.203–3.696)***
Sexism/objectification	.273 (.157–.472)***	.293 (.169–.505)***
Sexual connotations	.613 (.416–.901)**	.675 (.451–1.008)*

\*\*\*  $p < .01$ .

\*\*  $p < .05$ .

\*  $p < .10$ .

related codes (injury content, overconsumption content, sexual connotations, and sexism/objectification) were not significantly related to average brand GRP ratio.

Results from the generalized estimating equation model indicated that creatives containing violations of industry guidelines were twice as likely to occur in magazines with ≥25% youth composition as creatives without violations (Table 5). Interestingly, the opposite was true for ads with overconsumption and sexism/objectification—ads with this type of content were less likely to occur in magazines with high youth composition (Table 5). No significant associations were found with injury content and addiction content.

#### Discussion

This study analyzed a census of alcohol ads appearing in 11 youth-oriented magazines from 2003 to 2007. However, this group of magazines was sampled by criterion and not randomly; hence, our analysis is not representative of the entire universe of alcohol advertising during this period. Also, the content analysis we performed was mainly descriptive. As such, it is subject to the limitations of such analyses, not least of which is the possibility that the perceptions of trained coders differ from the perceptions of the target audience, as has been pointed out by Austin [22]. However, this difference may result in a conservative estimate of problematic content by young people, as young untrained message receivers may in fact perceive a higher frequency of problematic content than trained coders [23]. Our analysis also occurred during a period when alcohol advertising was under a high level of public health scrutiny. Between 2003 and 2007, the Federal Trade Commission produced one report on alcohol industry self-regulation of its advertising practices [24] and issued orders for data on placements and expenditures from 12 major alcohol companies in preparation for a second report issued in 2008 [25]. During this period as well, the Center on Alcohol Marketing and Youth issued 21 reports focusing on various aspects of alcohol advertising placement practices. Thus, it is possible that our sample reflects behavior change on the part of alcohol advertisers in response to this high degree of scrutiny.

This study updates public health surveillance on injury content in alcohol advertising. The most recent such exercise (1999–2000) found that 2% of advertisements contained injury content [12]. Similarly, in our study, 3% of all creative executions contained such content. This suggests that injury content in alcohol advertising continues at a low, but relatively steady, level compared with other kinds of objectionable content.

This study also demonstrates the utility of combining quantitative data on youth exposure to alcohol advertising with qualitative data on its content. We showed that violations of alcohol industry guidelines were significantly more likely to occur in the magazines in our sample with the highest youth audience concentrations, suggesting that the industry is more likely to be “edgy” in content when it is also being “edgy” in terms of its placement practices. Similarly, we demonstrated that brands with high percentages of occurrences containing violations of alcohol industry guidelines and/or addiction content were also likely to have high GRP ratios, indicating that youth aged 12–20 years may be more likely to see this problematic content.

The literature demonstrating that youth are at a greater risk of underage drinking when repeatedly exposed to alcohol marketing imagery continues to grow [26]. When the National Research Council and Institute of Medicine examined the issue of alcohol advertising and young people, it concluded that content was inherently subjective and difficult to regulate, and that the most useful means of protecting young people from objectionable content would be to limit further exposure by strengthening the industry’s own voluntary standards for maximum youth audiences of its advertising placements [15]. The development since then of a systematic means of assessing compliance with the beer industry’s voluntary code of content suggests that it may be possible to assess content with less subjectivity [19]. However, it is insufficient to wait for after-the-fact content analyses to demonstrate the risk faced by young people because of greater per capita exposure to alcohol advertising in magazines and the problematic content therein. Our finding that violations of industry guidelines are most likely to occur in magazines whose audiences are most skewed toward young people instead points to the importance of affirmatively limiting alcohol advertising in those magazines.

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