

# Alcohol brand appearances in US popular music

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## ABSTRACT

**Aims** The average US adolescent is exposed to 34 references to alcohol in popular music daily. Although brand recognition is an independent, potent risk factor for alcohol outcomes among adolescents, alcohol brand appearances in popular music have not been assessed systematically. We aimed to determine the prevalence of and contextual elements associated with alcohol brand appearances in US popular music. **Design** Qualitative content analysis. **Setting** We used *Billboard Magazine* to identify songs to which US adolescents were most exposed in 2005–07. For each of the 793 songs, two trained coders analyzed independently the lyrics of each song for references to alcohol and alcohol brand appearances. Subsequent in-depth assessments utilized Atlas.ti to determine contextual factors associated with each of the alcohol brand appearances. **Measurements** Our final code book contained 27 relevant codes representing six categories: alcohol types, consequences, emotional states, activities, status and objects. **Findings** Average inter-rater reliability was high ( $\kappa = 0.80$ ), and all differences were easily adjudicated. Of the 793 songs in our sample, 169 (21.3%) referred explicitly to alcohol, and of those, 41 (24.3%) contained an alcohol brand appearance. Consequences associated with alcohol were more often positive than negative (41.5% versus 17.1%,  $P < 0.001$ ). Alcohol brand appearances were associated commonly with wealth (63.4%), sex (58.5%), luxury objects (51.2%), partying (48.8%), other drugs (43.9%) and vehicles (39.0%). **Conclusions** One in five songs sampled from US popular music had explicit references to alcohol, and one-quarter of these mentioned a specific alcohol brand. These alcohol brand appearances are associated commonly with a luxury life-style characterized by wealth, sex, partying and other drugs.

**Keywords** Advertising, alcohol, Hip-Hop music, marketing, music, product placement, Rap music, tequila, vodka.

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## INTRODUCTION

Alcohol consumption is the leading root cause of mortality and serious morbidity in adolescence [1–3]. About 70% of deaths in this age group are due to four major causes: motor vehicle accidents, other accidents, homicide and suicide [1,3], and it is estimated that these deaths are related to alcohol as much as 40–50% of the time [2–4]. Alcohol is also considered the leading cause of morbidity in this population, due to its established association with non-fatal injuries [3,4], other substance use [3,5], risky sexual behavior [1,6], academic failure [3,7], physical and sexual assault [4] and alcohol dependence [8].

Despite the negative impact of alcohol use on adolescents, consumption remains high in the United States among this population: 45% of youth in grades 9–12 are current drinkers, defined as having a complete alcoholic drink during the past 30 days [1]. Furthermore, more than one-fourth (26%) of these adolescents are current ‘binge’ drinkers—defined as having had four to five alcoholic beverages in a single sitting at least once in the past 30 days [1]—and nearly one-third of adolescents (29%) have, within the past 30 days, ridden in a car driven by someone who has used alcohol [1,3]. These early exposures are particularly concerning in light of the fact that the odds of future alcohol abuse or dependence increase

by 7% for each year of age below 21 that alcohol consumption begins [8].

Alcohol use is associated with multiple socio-demographic [9,10], environmental [10–13] and personal factors [10,12–14]. However, a growing body of literature suggests that exposure to certain mass media representations of alcohol—both narrative (e.g. movies) and persuasive (e.g. advertisements)—may be among the strongest risk factors for adolescent alcohol use [15–27]. These media exposures are common; 83% of contemporary films (including 57% of G/PG films) depict alcohol use, exposing the average US youth 10–14 years of age to 5.6 hours of movie alcohol use and 244 alcohol brand appearances annually [28]. Additionally, data from 2009 suggest that, during their formative years, US youth view on average 366 alcohol advertisements on television annually [29].

Little research, however, has focused on alcohol representations in popular music, which has emerged as the most frequent alcohol-related media exposure [30]. A previous assessment found an average 13.7 instances of alcohol use per song-hour [31], with wide variation by genre. American adolescents spend an average of 2.5 hours per day listening to music [32]; depending on what musical genre they prefer, exposure could be quite substantial.

Moreover, prior research shows that these references are associated commonly with consequences that adolescents find particularly compelling, such as sex, popularity and partying [31]. Thus, music could serve to link alcohol with these outcomes and enhance positive expectancies for alcohol use.

Prior research has not, however, examined alcohol brand appearances in popular music. Brand appearances are important to assess because they may function as advertising, whether or not they are paid for or sanctioned by the alcohol industry. Developing brand recognition is a crucial step in the marketing of any product, and companies go to great lengths to create positive associations with their brands through product-placement activities. Moreover, for both cigarettes and alcohol, brand recognition and having a favorite brand are independent, potent risk factors for the initiation and maintenance of the use of these substances among adolescents [22,33,34]. Therefore, the purpose of this study was to assess the prevalence and contextual elements of alcohol brand appearances in popular songs in the United States.

## METHODS

### Song selection

We used *Billboard Magazine* [35] to identify the most popular songs in the United States for 2005–07, the most

recent complete available data when the study was begun. Annually, *Billboard* uses an algorithm that integrates data from both sales and airplay to determine the top songs according to exposure. Sales data for this algorithm are compiled by Nielsen SoundScan from merchants representing more than 90% of the US music market, including sales from music stores, direct-to-consumer transactions and internet sales and downloads. *Billboard's* airplay data utilize Nielsen Broadcast Data Systems, which monitors radio stations electronically in more than 120 representative markets across the United States. Integrating these data, *Billboard* reported the following youth-relevant lists of popular song titles for each of the years from 2005–07: the 'Pop 100' ( $n = 100$ ) the 'Billboard Hot 100' ( $n = 100$ ), 'Hot Country Tracks' ( $n = 60$ ), 'Hot R&B/Hip Hop Songs' ( $n = 100$ ), 'Hot Rap Tracks' ( $n = 25$ ), 'Mainstream Rock Tracks' ( $n = 40$ ) and 'Modern Rock Tracks' ( $n = 40$ ). The lists are 'closed-out' at year-end, after which time the song rankings do not change. Some songs were included on more than one chart, leaving 793 unique songs in this sample. Additional popular charts, such as the 'Adult Top 40', were also available but were not included in this analysis focusing on youth exposure to popular music.

### Initial coding

For each of the 793 songs, two trained coders familiar with popular music analyzed independently the lyrics of each song for references to alcohol and alcohol brand appearances. As part of a formal training, each coder was given lists of frequently used slang terms related to alcohol use. We computed inter-rater agreement and kappa statistics [36] for each of the data elements coded and found excellent agreement between coders on each of these measures, such as the specific number of times alcohol was mentioned in a song. Minimum agreement was 74% and the few rare inter-rater disagreements were adjudicated easily between the coders [31].

### Subsequent coding

The process described above resulted in 169 of 793 (21.3%) of songs that referred explicitly to alcohol. Of these songs with references to alcohol, 41 (24.3%) songs specifically contained alcohol brand appearances. Two qualitative coders (E.N. and K.R.) then used Atlas.ti version 5.2 [37] to assess these particular songs in more depth. We selected a qualitative approach for this phase of the research in order to obtain a more in-depth understanding of the contextual associations with alcohol brand appearances.

Selected texts included any paragraph (e.g. verse or chorus) in which an alcohol brand appearance was found. We selected these specific paragraphs (rather than

the entire song) in order to focus on elements associated specifically with the alcohol brand appearances. We selected the entire verse and/or chorus in order to maximize consistency.

The coders initially assessed the first 20% of the sample ( $n = 9$  songs) using the *in vivo* coding feature of Atlas.ti. This feature allows coders to select any relevant text during a tentative coding process, allowing theory to emerge from the data [38]. This method of building rather than testing theory is consistent with our selected analytical framework of grounded theory (please see analytical considerations below) [38]. Based on these initial assessments and on a discussion process between the two coders and the principal investigator (B.P.), we developed a final study code book, condensing similar or redundant codes and using a system of open codes that incorporated new themes as they emerged from the text. The two coders then coded data independently from all 41 songs using the final codebook. We assessed the inter-rater reliability of our coding using Cohen's kappa scores and adjudicated any discrepancies using an iterative process.

### Final coding scheme

Our final code book contained 27 relevant codes representing six different categories: alcohol types, consequences, emotional states, activities, status and objects (Table 2).

#### Alcohol types

Nine alcohol-type codes identified the specific type of alcohol ('NBBEER', 'NBRUM', 'NBWINE', etc.) and whether that brand was a 'luxury' brand ('NBLUX'). For the purposes of this analysis, we defined a 'luxury' brand as one which costs, on average, more than twice as much as a generic brand of the same alcohol type, as determined from a routine internet search.

#### Consequences

A pair of codes were used to indicate either positive ('ALCPOS') or negative ('ALCNEG') consequences of the alcohol use, as suggested by song lyrics. When consequences were not discussed or neutral, no code was used.

#### Emotional states

Two codes were used to define emotional states. 'FEEL-GOOD' was indicated when the subject expressed a positive emotional state. 'COPING' indicated the use of alcohol to modify mood, in an attempt to deal with an emotional issue.

#### Activities

Another series of codes were related to activities found juxtaposed with alcohol brand appearances. 'SEX'

indicated a reference to sex or a sexualized act while 'DEGSEX', defined as degrading sex, was applied to any 'SEX' code in which both the following criteria were satisfied: (i) the sexual act had no emotional component (i.e. it was completely physical) and (ii) a power differential was conspicuous between the sexual partners [39–41]. 'DANCE' described an act of dancing or a dance move and 'PARTY' described the act of socializing with the goal of mutual enjoyment. 'COMMUNITY' indicated a social activity that invoked an intimate sense of belonging or community. 'CRIME' referred to criminal or illegal activity, while 'DEAL' referred specifically to the criminal act of buying or selling drugs.

#### Status

Codes related to status were 'WEALTH', 'ELITE' and 'STREET'. 'WEALTH' coded references, often to money or luxury items, that indicated substantial financial resources. 'ELITE' indicated an individual was socially elite, popular or desirable. 'STREET' referenced an individual's origins in, or life-style associated with, 'the streets', which often represented humble beginnings.

#### Objects

Finally, several codes related to objects mentioned in conjunction with brand-name alcohol. 'WEAPON' coded a reference to a weapon, 'OTHERDRUG' indicated a drug or drug use that was not alcohol-related, but which excluded references to dealing, 'VEHIC' indicated a car or a reference to one of its components, such as rims, and 'LUX' was used to identify luxury items other than alcohol. Again, we used a price point more than double the generic to define a 'luxury' item.

The average kappa score for each of the above variables was 0.80, which Landis & Koch [42] describe as a 'nearly perfect' level of inter-rater reliability. Every discrepancy between the two coders was discussed among the team and easily adjudicated, resulting in a final data set.

### Analytical considerations

As discussed above, we used grounded theory to analyze our data. The process of grounded theory analysis is systematic and moves from 'basic description' (*in vivo* coding, described above) to 'conceptual ordering', described as 'organizing data into discrete categories according to their properties and dimensions and then using description to elucidate those categories [38]'. We deemed this to be the most appropriate approach because of (i) the relative lack of prior theoretical work in this area and (ii) our goal of obtaining an in-depth assessment of possible textual meanings.

Sample size in qualitative studies is guided by thematic saturation, a process by which a researcher collects and analyzes data until he or she is not learning anything new [43,44]. Although we first analyzed only songs from 2005 [31], at that time thematic saturation was not sufficient due to relatively few examples of brand names related to alcohol. Only after 2 additional years of data collection (2006 and 2007) was saturation deemed to be sufficient.

The frequencies of the codes were assessed using a quasi-statistical qualitative methodology [45]. We summed the number of counts for each code and used STATA Statistical Software [46] to assess statistical significance of differences in code counts using  $\chi^2$  analyses. We defined statistical significance with a two-tailed alpha of 0.05 a priori.

## RESULTS

Of the 793 songs in our sample, 169 (21.3%) referred explicitly to alcohol, and of those, 41 (24.3%) contained an alcohol brand appearance. More than three-fourths (78.1%) of alcohol brand appearances involved luxury brands, and 51.2% of songs also contained references to other luxury items. The most frequently appearing brands were Patron (tequila), Grey Goose (vodka), and Hennessy (cognac) (Table 1). Of the songs with alcohol and an alcohol brand appearance, the majority of songs were Rap (63%), R&B/Hip-Hop (24%) or

Country (12%). No pop or rock songs mentioned name brands.

Associations between presence of a brand name and other song characteristics are presented in Table 2. While 17.1% of alcohol brand appearances were associated with negative consequences, 41.5% were associated with positive consequences ( $P < 0.001$ ). We also determined if there were associations between presence of a brand name and types of consequences such as mental, physical or social consequences. These analyses demonstrated that, compared with songs mentioning alcohol but without a brand name, the presence of a brand name was associated with more positive social ( $P = 0.03$ ) and sexual ( $P = 0.04$ ) consequences, but more negative legal consequences ( $P < 0.001$ ). Mental, emotional, physical and monetary consequences were no different in these different types of songs.

Qualitatively coded examples are presented in Table 3. One in eight (12.2%) brand-name alcohol references were made in the context of a positive emotional state, not the direct consequence of alcohol. Only two of 41 songs (4.9%) referenced branded alcohol as a means of coping with negative emotional issues.

Alcohol brand appearances were associated commonly with sex (58.5%)—the majority of which was classified as degrading (75.2%)—and partying (48.8%). Alcohol brand appearances were also mentioned in songs that referenced dancing (31.7%) and crime (22.0%) or drug dealing (12.2%). A small proportion of songs (4.9%) associated with an alcohol brand appearance invoked a sense of community or intimate social belonging, as seen in the lines: 'Beer and bonfires/Wide open throttle, Coors in a bottle/It's all for one and one for all y'all'.

Most songs were associated with wealth (63.4%) and more than a third of songs (36.6%) made reference to the singer's origins or life-style being associated with 'the streets'. A substantial proportion of songs (43.9%) also make reference to the singer's status as part of the social elite, as exemplified by the lyrics: 'I'm on that Patron so get like me/ . . . Er'body love me I'm so fly'.

Weapons (26.8%), other drugs (43.9%) and luxury objects (51.2%), other than luxury brand alcohol, appeared often in songs containing alcohol brand appearances. Vehicles (39.0%) were also commonly mentioned in these songs.

## DISCUSSION

This qualitative assessment of popular music finds that alcohol is referenced frequently in popular music, and that when it is referenced a brand name is supplied about 25% of the time. This represents about 3.4 alcohol brand appearances per song-hour [31]. Given that the average

**Table 1** Alcohol brand appearances from 2005 to 2007.<sup>a</sup>

Brand	Alcohol type	Number of references <sup>b</sup> n (%)
Patron	Tequila	17 (29)
Grey Goose	Vodka	11 (19)
Hennessy	Cognac	10 (17)
Cristal	Wine	4 (7)
Bacardi	Rum	2 (3)
Hpnotic	Fruit liquor	2 (3)
Jack Daniels	Whisky	2 (3)
Smirnoff	Vodka	1 (2)
Corona	Beer	1 (2)
Jim Beam	Whisky	1 (2)
Coors	Beer	1 (2)
Rossi	Wine	1 (2)
Bud Light	Beer	1 (2)
Louis XIII	Cognac	1 (2)
Dom Perignon	Wine	1 (2)
Easy Jesus (E&J)	Cognac	1 (2)
Alize	Fruit liquor	1 (2)
Malibu	Rum	1 (2)

<sup>a</sup>Total percentage does not equal 100 due to rounding. <sup>b</sup>Total  $n = 59$  references within 41 songs.

**Table 2** Associations between presence of a brand name and other song characteristics.

	<i>All songs with alcohol</i>	<i>Songs with alcohol but no brand name</i>	<i>Songs with alcohol and a brand name</i>	
	<i>n = 169</i>	<i>n = 128</i>	<i>n = 41</i>	
	<i>Column %</i>	<i>Column %</i>	<i>Column %</i>	<i>P*</i>
Primary genre				<0.001
Country	28	34	12	
Pop	6	8	0	
RBH <sup>b</sup>	16	13	24	
Rap	41	34	63	
Rock	9	12	0	
Mental consequences				0.21
Negative	9	8	12	
Neutral	88	90	80	
Positive	4	2	7	
Emotional consequences				0.73
Negative	5	5	2	
Neutral	81	80	83	
Positive	14	14	15	
Physical consequences				0.27
Negative	13	12	17	
Neutral	79	82	71	
Positive	8	6	12	
Social consequences				0.03
Negative	3	4	0	
Neutral	41	45	27	
Positive	56	51	73	
Sexual consequences				0.04
Negative	2	2	2	
Neutral	60	66	44	
Positive	37	32	54	
Legal consequences				<0.001
Negative	7	2	20	
Neutral	93	98	80	
Positive	0	0	0	
Monetary consequences				0.08
Negative	1	1	0	
Neutral	83	87	73	
Positive	16	13	27	

\*P-values were determined using  $\chi^2$  analyses comparing songs with branded versus unbranded references to alcohol. <sup>b</sup>Rhythm, blues and hip-hop, which is a distinct category from Rap in *Billboard's* categorization.

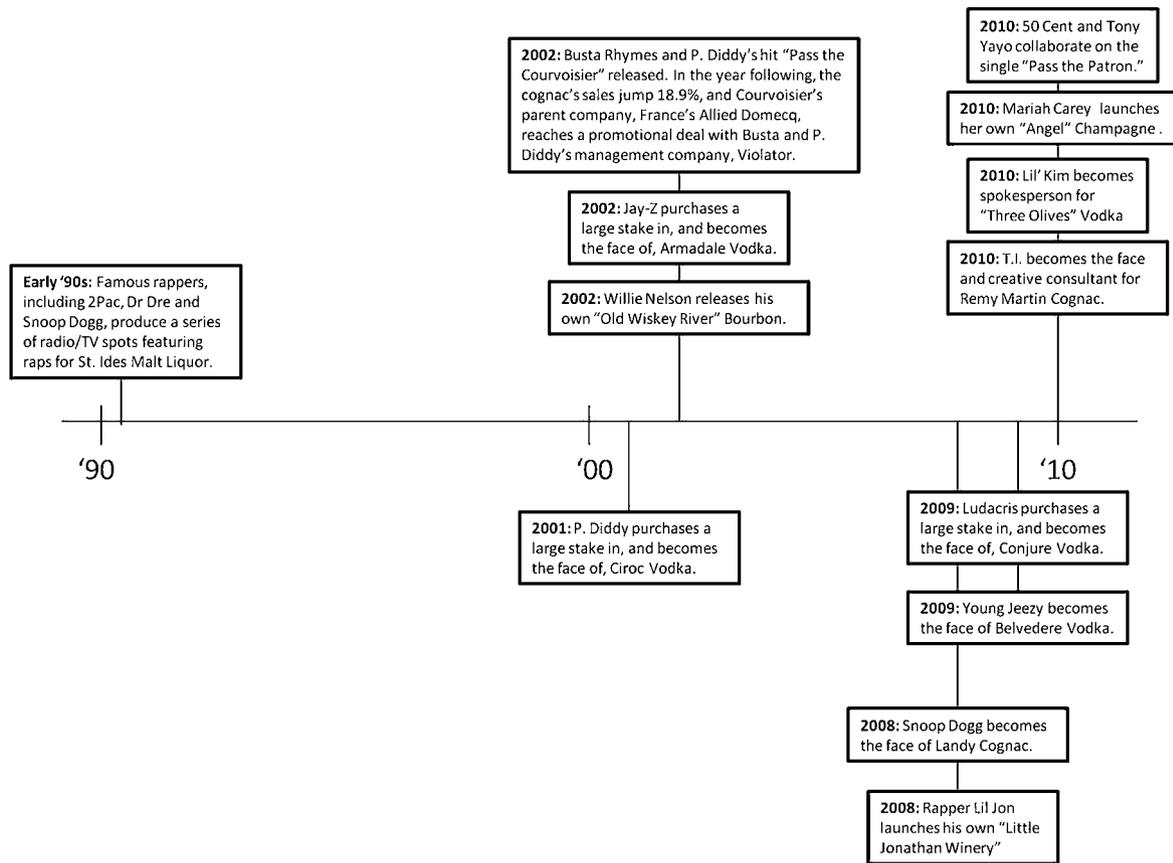
adolescent is exposed to about 2.5 hours of popular music per day [32], he or she will be substantially exposed to alcohol brand references in popular music on an annual basis. Furthermore, specific brand names mentioned are frequently luxury distilled spirits brands, and are associated with a life-style characterized by degrading sexual activity, wealth, partying and violence. Branded alcohol references were most common in Rap and R&B/Hip-Hop.

Frequent exposure of young people to brand-name references in popular music is of concern. Brand recognition is an independent and potent risk factor for the

initiation and maintenance of substance use among adolescents [22,33,34], and references to alcohol brand names in popular music may be particularly potent because they combine the persuasive appeal of advertising with the narrative appeal of an embedded and naturalistic representation of alcohol. This study suggests that brand-name references to alcohol are associated strongly with positive feelings and associations, which are often the goal of advertisements. Moreover, the brands found in music represent the same distilled spirits brands that are increasingly named as favorites by underage drinkers, especially females [47].

Table 3 Abbreviated code book with examples.

Code	Definition	Example
Alcohol type		
NBBEER	Name-brand beer	'Colder than a Bud Light'
NBCOGN	Name-brand cognac	'Now you and me can drink some Hennessy'
NBFRUIT	Name-brand fruit liqueur	'You say you drink Alize or was it Malibu?'
NBRUM	Name-brand rum	'Topsy off this Bacardi'
NBTEQ	Name-brand tequila	'Triple shot of Patron on the rocks with little bit of lime'
NBVODK	Name-brand vodka	'And sip that Grey Goose'
NBWINE	Name-brand wine or champagne	'Drinkin' on some Rossi'
NBWSK	Name-brand whiskey	'I wanna have a good time and enjoy my Jack'
NBLUX	Luxury brand of alcohol, defined as a brand that costs more than double a generic brand	'Cup full of Cristal'
Consequences		
ALCPOS	Positive consequence of alcohol	'While I sit back like a playa/And sip that Grey Goose/Feelin' all loose'
ALCNBG	Negative consequence of alcohol	'Ask directions from a genie/In a bottle of Jim Beam/And she lies to you/That's when you learn the truth'
Emotional states		
FEELGOOD	Reference to a positive emotional state	'A youngblood feeling good and never laid back/Always run with that Goose and never Cognac'
COPING	Use of alcohol as a means to cope with an emotional issue	'Got a bucket of Corona/Enough stories to last all night/About the trials and tribulations/Of findin' Mr Right'
Activities		
SEX	Reference to sex or a sexualized act (such as stripping)	'Listen, I piss out Cris, inhale haze/I'm gonna get married and get laid all day'
DEGSEX	A power differential in which: (i) the sexual act had no emotional component and (ii) a sexual differential was conspicuous between the sexual partners	'Red Bull, Grey Goose, now the ladies bent/Now we go and do a thing under a shady tent/And they don't question what I say 'cause I'm a ladies pimp'
DANCE	Dancing or description of a dance move	'Got my drink and my two step, my drink and my two step/It's on! It's on, it's on (and I'm home)/Get the Patron and tell 'em that it's on'
PARTY	Social event that involves the act of socializing with the goal of mutual enjoyment	'I came to have a party/Open off the Bacardi/Feeling so hot tamale'
COMMUNITY	Social activity that invokes an intimate sense of belonging or community	'Beer and bonfires/Wide open throttle, Coors in a bottle/It's all for one and one for all y'all'
DEAL	Explicit reference to selling or buying drugs	'Just bought a zone I's on my feet/I'm on that Patron so get like me'
CRIME	Reference to illegal activity, direct or indirect (e.g. avoiding the police)	'Catch me posted on da block in something exotic' 07/Yea da same color Hpnotic/On the outside looking and I want in/My homie did the same thang and he got 10'
Status		
WEALTH	Reference to an object or money, as an indication of wealth	'The whip sittin' on two-sixes, the lip chromed/My money used to be immature now my shit grown/Big wheels, big homes, I'm doin' it big homes/(Now it's on! It's on, it's on) the kid home/Get the Patron, and tell 'em that it's on'
ELITE	A statement suggesting the individual is part of the social elite, e.g. is in an enviable or desirable social position	'Take a sip of that Goose/I'm looking good and living lavish/Big boy pimping, popping, dipping/Now tell me I'm not the baddest'
STREET	Reference to a singer's origin as being 'less' than current status (e.g. 'coming from the streets'), or a description of the life-style associated with living on the streets	'We pop Cris my niggas and still drink beer/What did you expect man I came from nothing/Real street niggas wouldn't change for nothing'
Objects		
WEAPON	Weapon-carrying	'Pants hanging off me now 'cause my pistol heavy (Hood)/I ain't spoke to you yet dawg, 'cause I ain't friendly/I drank Yak homie, you all drank Cris'
OTHERDRUG	Drug use other than alcohol	'Before I leave the house I'm slizzard on the Goose/And I'm higher then a plane so a nigga really loose'
VEHIC	A vehicle, or a part of a vehicle, such as wheel rims	'I gotta get to home 'fore the po's scope this big of' Excursion swerving all up in the curve man/Nigga been sippin' on Hennessy and the gin again is in again we in the wind'
LUX	A luxury item, other than alcohol, that costs more than double a generic brand	'J's on ya feet but you can't get ease/Louis Vuitton brown, white, and yellow trick please/I go to Saint Louis and let my chain hang low/Canary yellow diamonds mixed with rows gold/I shine real bright in the light cause I'm a star/8 shots of Patron now I'm standin' on the bar'



**Figure 1** Historical perspective on major formal relationships between the alcohol and popular music industries

The relatively high level of brand-name appearances related to alcohol may be because of strengthening ties between the alcohol and music industries (Fig. 1). An early example of alcohol advertising in the music industry involved the campaign launched by St Ides Malt Liquor in the early 1990s, featuring TV and radio spots that showcased major Rap artists, including 2Pac, Ice Cube and Dr Dre. While advertisers continue to engage in such traditional advertising ventures, many companies have turned to less traditional methods, including sponsoring music tours or hosting events in clubs [30]. Alcohol companies have also entered the music industry more formally; from 1995 to 2001 alcohol industry giant Seagram's acquired Universal and Polygram Records, merging the two labels to form the world's largest music conglomerate. Although Seagram's sold the label in 2001, the two companies maintained the synergistic marketing relationship they had established while jointly owned, continuing to sponsor music tours and use individual artists in their promotions. Finally, individual artists, particularly those in the Rap and Hip-Hop community, have begun to establish and promote their own alcohol lines, including Lil' Jon (Little Jonathan Wineries, 2008), Ludacris (Conjure Vodka, 2009), Jay-Z (Armadale

Vodka, 2002), Snoop Dogg (Landy Cognac, 2008), TI (Remy Martin Cognac, 2010) and Sean 'P. Diddy' Combs (Ciroc Vodka, 2001) [48–52]. The fact that these artists primarily represent Rap and R&B/Hip-Hop labels may explain the preponderance of branded alcohol references in these two genres (Fig. 1).

Most instances of brand-name references in song lyrics seem to be unsolicited and unpaid for by advertising companies. However, the line between paid advertising and brand references as an artistic choice has become difficult to distinguish, as advertising companies have begun to reward artists retroactively with product, sponsorship or endorsement deals after a song containing their product's name becomes popular. An example of retroactively paid product placement is Busta Rhymes and P. Diddy's 2002 hit 'Pass the Courvoisier'. Following the song's release, the cognac's sales jumped 18.9%, and Courvoisier's parent company, France's Allied Domecq, reached a lucrative promotional deal with Busta and P. Diddy's management company, Violator [53].

Although Rap and Hip-Hop music are popular among youth of all races [32], these genres still seem to be most heavily preferred by African Americans in the United States. For example, it is estimated that about 30–40% of

those who purchase Rap music are African American [54], while African Americans comprise only about 13% of the US population [55]. Our finding that alcohol brand references are most prominent in Rap and R&B/Hip-Hop (Table 2) suggests, therefore, that African Americans are heavily exposed to these potentially influential messages. This exposure may be a potentially changeable source of the substantial alcohol-related health disparities between African Americans and Caucasians [56,57]. However, it is not entirely clear whether African Americans are indeed exposed to increased Rap and/or Hip-Hop music compared with Caucasians, in part because Nielsen data have not examined the racial make-up of popular music audiences systematically [54]. Therefore, it would be valuable for future work to confirm whether African Americans are exposed to alcohol brand references disproportionately and to examine the potential influence of these messages.

Compared with unbranded references to alcohol, branded references were more commonly associated with positive social consequences, positive sexual consequences and negative legal consequences. However, these associations are probably related to the fact that branded references were associated usually with Rap and R&B/Hip-Hop genres, which commonly portray idealized social and sexual situations as well as confrontation with police [31].

Organizations of alcohol producers, such as the Distilled Spirits Council of the United States (DISCUS), have developed self-regulating codes regarding appropriate marketing practices [58]. One of these guidelines states that it is unethical to target marketing to audiences below legal drinking age [58]. However, Rap music is usually found to be a favorite type of music among high school students [59,60]. Therefore, it is probable that campaigns which center upon Rap artists are not in compliance with these guidelines. It may be valuable for future analyses to address specifically whether marketing campaigns associated with popular music, such as Rap and Hip-Hop, are consistent with marketing guidelines established by the industry.

### Limitations

One limitation of any qualitative methodology is that interpretation and bias introduced by the researcher poses a threat to internal consistency [43]. We sought to minimize this by using a team of two researchers to code the data independently, comparing their responses with reliability scores, and involving a third researcher in all discussions related to codebook development. Another limitation of this analysis is that we assessed songs only from 2005 to 2007. Because of recent announcements of newly forming relationships between the music and

alcohol industries [48–52], it may be valuable to revisit these analyses in upcoming years. Finally, we coded songs deemed to be the most popular among US adolescents. Thus, although music popular in the United States is likely to be roughly similar to that in other parts of the world, these findings may not be generalizable to those in other nations.

## CONCLUSION

This study demonstrates that when alcohol is referenced in popular music—which occurs in about 20% of songs—a brand name is supplied about 25% of the time. Furthermore, we found that brand-name references were associated commonly with a life-style often characterized by degrading sexual activity, wealth, partying and violence. Because both brand recognition and positively portrayed substance use are powerful predictors of adolescent substance use, it may be important to assess the associations between brand-name alcohol references in popular music with clinically relevant alcohol use outcomes.

### What this study adds

When alcohol is referenced in US popular music, a brand name is supplied about 25% of the time. Based on these estimates and published data, the average US adolescent is heavily exposed to branded alcohol in popular music. Of songs with alcohol and an alcohol brand appearance, the vast majority are categorized as Rap (~60%) or R&B/Hip-Hop (~25%). Brand-name references to alcohol are associated commonly with a life-style characterized by degrading sexual activity, wealth, partying and violence.

### Declarations of interest

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