

# Sex, Drugs, and Country Music? A Content Analysis of Substance Use, Sex, Violence, and Weapons in Country Music

Robin L. Toblin<sup>1</sup> and Jennifer L. Lowell<sup>2</sup>

<sup>1</sup> Carroll College

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## Abstract

Because adolescents are strongly influenced by popular media, adolescents aged 15 to 18 years listen to an average of 3 hours of music per day, and 98 million US residents listen to country music, we aim to describe the prevalence of references to health-risk behaviors in country music. MP3 recordings of the top 30 rated country music songs during 2001–2010 were reviewed independently by investigators for health-risk behaviors, including references to substance use, sex, violence, and weapons. Of 300 songs analyzed, 100 (33

**Index terms**— country music, music, mass media, adolescents, sexual activity, alcohol use, tobacco, weapons, violence.

) exposure to depictions of degrading sexual activity through music and sexual activity in adolescents (Martino et al., 2006; Primack, Douglas, Fine, & , and (4) exposure to violence in the media and aggressive behaviors in adolescents (American Academy of Pediatrics & Council on Communications and Media, 2009b). While limited data are available linking exposure to health-risk behaviors portrayed in music lyrics to certain adolescent health-risk behaviors (i.e., alcohol use and violence), the Social Learning Theory supports the association of exposure to music lyrics portraying health-risk behaviors in an appealing and familiar manner, and health-risk behaviors in adolescents (Glanz K, Rimer BK, & Lewis FM, 2002; Primack, Dalton, Carroll, Agarwal, & Fine, 2008). Hence, it is important to understand the prevalence and nature of health-risk behaviors in the popular media to which adolescents are exposed.

The opportunity for adolescent exposure to health-risk behaviors through music media is pronounced. Adolescents aged 15 to 18 years listen to an estimated 3.0 hours of music per day and the increasing use of personal listening devices lessens the ability for parents to monitor the music to which their children are listening (Rideout V, Roberts D, & Foehr U, 2010). Over 75% of children aged 8 to 18 years own a MP3 player and nearly two-thirds of time spent listening to music is spent using a cell phone, MP3 player, or computer (Rideout V et al., 2010). Furthermore, only 26% of children report having rules about types of music choices and 10% about how much time is spent listening to music (Rideout V et al., 2010).

The popularity of country music with an estimated audience size of 98 million US residents (Country Music Association, 2012), combined with easier access to music and lyrics through modern technology has resulted in adolescents having more opportunities for exposure to country music than in the past. Compared with other music genres (e.g., rap, hip-hop, rock) ?? Christenson P, 1999). Thus, it is important to understand better the lyrical content of country music and its potential effects on child and adolescent health. Two previous studies analyzed the written lyrical content of the 279 most popular songs in 2005, including 61 country music songs, and showed that approximately 40% of the country music songs analyzed had references to substance use and nearly one-third to sex (Primack, Gold, et al., 2008). However, a content analysis of 212 top-rated country music songs from 1996 and 1997 found that only 14 percent of country music songs had substance use references (Roberts D et al., 1999). An analysis of 111 country music videos in 1994 showed that 10.8% portrayed violence and 6.3% referred to weapon carrying (DuRant et al., 1997).

The purpose of this study was to analyze the most popular country music songs from 2001 to 2010 for references to health-risk behaviors, including substance use, sex, violence, and use of weapons. We hypothesized

that references to health-risk behaviors were frequent and consistently present in popular country music songs from 2001 to 2010.

## II.

## 2 Methods

### 3 Bob

Kingsley's Country Top 40 (<http://www.ct40.com/>) was used to identify the 30 highest rated country music songs for each year from 2001 to 2010. Country Top 40 is a weekly syndicated radio show that plays the week's top rated music songs based on radio station airplay in 180 US and Canadian radio markets (Wikipedia, 2012a(Wikipedia, , 2012b)). This study did not use human subjects; therefore, the study was not subjected to human subjects review.

### 4 a) Coding procedures

A six-person team was trained in observation methods that included instructions for detecting references to substance use, sex, violence, and weapons. For each of the 300 songs, four initial investigators (KG, RH, AS, and a non-author) listened independently to MP3 recordings and used a standardized data collection instrument to record multiple elements relating to substance use, sex, violence, and weapons as previously described Primack, Gold, et al., 2008). MP3 recordings were used for this analysis to garner undergraduate student (KG, RH, AS) interest in the epidemiology process and to simulate typical adolescent exposure to music lyrics. Investigators could listen to each song an unlimited number of times to collect the data. Observations were counted if ≥3 investigators noted the reference. If just two investigators noted a specific reference, the song was then reviewed independently and in a blinded manner by the two remaining investigators (RT, JL). The reference in question was then counted if both of the second-level reviewers noted the reference; otherwise, the reference was not counted. Only the four initial investigators counted the number of references to health-risk behaviors; the number of references was not confirmed by the two remaining investigators.

### 5 b) Measures and analysis

Descriptive information for each song was recorded and included the singer, singer's sex (male, female, or both if duo or group), song title, song length, year song appeared on the chart, and chart ranking.

We coded any reference to explicit substance use (i.e., alcohol, tobacco, marijuana, and other illicit drugs), figurative substance use (i.e., not explicit substance use or substance use mentioned in form of a simile), places associated with substance use (e.g., "honky tonk", bar, etc.), and "wallpaper" reference to substance use (i.e., substance mentioned in the background but not explicit or figurative substance use) (Table 1) . For each song with explicit substance use, we recorded the number of references for alcohol, tobacco, marijuana, and other illicit drugs . For songs with substance use in the chorus, we recorded each mention of substance use as a separate reference . The number of references we reported for each substance was determined by taking the average number of references noted by those observers who reported references to explicit substance use . Investigators also noted any reference to sex, including any innuendos (Table 1).

Songs were coded as having no references to violence, references to threats of or actual bodily harm, or references to threats of or actual loss of life because of violence (DuRant et al., 1997). Songs were coded as having no references to weapons, references to one weapon, or references to either two or more weapons or to at least one weapon used in a violent act (DuRant et al., 1997).

A review of written lyrics for only those songs originally detected as having references to substance use, sex, and/or weapons was conducted by two observers (RT and a non-author). When there was disagreement, the song was discussed to achieve consensus. Songs were coded as having the presence of either substance use-related positive, negative, or neutral consequences for the song's character. Songs were coded as having risky sexual activity if the lyrics described a casual or promiscuous sexual encounter, the sexual reference was associated with substance use, or at least one person mentioned was objectified.

Additionally, songs were coded as having degrading sexual activity if all of the following criteria were met: a) at least one person mentioned had a large sexual appetite, b) at least one person mentioned was objectified, and c) sexual value was placed on a person solely for physical characteristics (Primack, Gold, et al., 2008). Songs were coded as having references to weapons being used in legal activities (e.g., hunting) or illegal activities (e.g., murder).

Kappa values were calculated to assess interobserver reliability (King J, 2004). Fischer's exact or  $\chi^2$  analysis was used to assess for differences between proportions and a two-sample t test to compare means. Statistics were calculated using OpenEpi (Dean AG, Sullivan KM, & Soe MM).

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## 6 III.

## 7 Results

The four initial observers observed 300 songs, totaling 19 hours and 21 minutes. The average song length was 3.9 minutes. The kappa values for interrater agreement between each reference category were 0.80 for explicit substance use, 0.30 for figurative substance use, 0.71 for places associated with substance use, 0.72 for "wallpaper" reference to substance use, 0.39 for sex, 0.35 for violence, and 0.24 for weapons. The second level reviewers reviewed 44 (15%) of the 300 songs.

One-hundred (33%) songs had at least one reference to substance use, sex, violence, and/or weapons use. Additionally, song titles also contained references to health-risk behaviors (alcohol = 8, sex = 1, and weapons = 1). The percentage of songs per year with references to health-risk behaviors ranged from 17% to 43% (Figure 1). Songs with references to health-risk behaviors had a mean chart ranking of 13.9 compared with 16.3 for songs without ( $p = .02$ ). a) Substance use Seventy (23%) songs had at least one substance use (i.e., explicit, figurative, places, or "wallpaper") reference (Table 2). Of these, 64 had references to explicit substance use, 11 to figurative substance use, 17 to places associated with substance use, and two with "wallpaper" references. Overall, 13.4 alcohol use references occurred per hour of songmusic. Among those songs with explicit substance use references, there were means of 3.7 references per song and 57.5 references per hour of song-music. Additionally, 0.7 tobacco references per hour of songmusic were observed. Two songs were noted to have references to substances other than alcohol, tobacco, or marijuana. No songs were observed to have marijuana references. Songs with substance use references were more likely to have positive consequences ( $n=47$ , 67%) associated with substance use compared with negative consequences ( $n=17$ , 21%).

## 8 b) Sex

Twelve percent of the songs analyzed had sexual references (Table 2). The percentage of songs with sexual references by year ranged from 3% to 23%. Songs with sexual references were more likely to contain references to substance use (47%) compared with songs without sexual references (20%) (odds ratio [OR] = 3.6, 95% confidence interval [CI] = 1.7-7.3). Twentythree (64%) of the songs with sexual references (8% of all songs analyzed) had references to risky sexual activity and 4 (11%) to degrading sexual activity.

## 9 c) Violence and weapons

References to violence and weapons were not common. Eleven (4%) songs had references to violence; of these, 2 had references to threats of or actual loss of life to violence, and 9 had threats of or actual bodily harm. Five songs had references to both violence and substance use. Seven (2%) songs had references to weapons use. Of these, 3 had references to either two or more weapons or to at least one weapon being used in a violent act, and 4 had references to one weapon. Two songs had references to both weapons use and substance use. Six (86%) of the songs with references to weapons referred to legal use of weapons. Only 1 of the 300 songs analyzed referred to illegal use of weapons.

## 10 d) Artist characteristics

Eighty-nine artists had songs in this analysis. Duets comprised of two solo artists were counted as a unique artist and separate from each solo artist. The median number of songs per artist was 2 (range: 1-21). Two-hundred forty-six (82%) songs were performed by male vocalists, 41 (14%) by female, and 13 (4%) by both male and female. Male artists were more likely to have songs with references to substance use, sex, violence, and/or weapons use compared with female artists (OR = 3.3, 95% CI = 1.3-8.2). There were no significant differences when comparing male and female artists for each health-risk behavior individually. Songs performed by the three artists with the most songs in this analysis ( $n=52$ , 17.3%) were more likely to have references to substance use, sex, violence, and/or weapons use compared with songs performed by other artists (OR = 2.6, 95% CI = 1.4-4.8).

a The top 30 rated country music songs as ra In the present study, 12% of all songs analyzed had sexual references. The use of subtle and sexually suggestive innuendos (Table 1 al., 2009). Increased viewing of television and music videos was also associated with drinking in adolescents (Robinson et al., 1998). While a single pilot study showed exposure to music lyrics with alcohol references ated with increased alcohol sales among adults in a bar setting (Engels, Slettenhaar, ter Bogt, & Scholte, 2011), the impact on adolescent behavior following exposure to alcohol use portrayed in music lyrics is less understood and in need of further research. In our study, over 13 references to alcohol occurred per music, and the majority of songs with substance use references were associated with positive consequences. Furthermore, 23% of the songs analyzed had references to substance use compared with only rated country music songs in 1996 and 1997 (Roberts D et al., 1999), suggesting references to substance use are not decreasing in frequency over time. This is in contrast with movies where the percentage of tobacco use incidents depicted in topgrossing movies decreased 56% from 2005 to 2010 (Centers for Disease Control and Prevention, 2011).

In the present study, 12% of all songs analyzed had sexual references. The use of subtle and sexually suggestive innuendos (Table 1) in country music made it particularly difficult to detect sexual references in this study. The subtleness of many of these references might account for the low interobserver rating ?? However, these same

studies did not find a statistically significant association between exposure to non-degrading sex in musical lyrics and adolescent sexual activity. Only 11% of songs in this analysis had references to degrading sex; however, country music has previously been associated with lyrics depicting degrading sex. An analysis of 61 country music songs from 2005 found that nearly one-third of songs with references to sex had degrading sexual references. However, 64% of the songs with sexual references in this analysis had references to risky sexual activity. Considering the public health importance of early adolescent sexual activity, further study is required to determine if exposure to nondegrading sexual lyrics, including those with risky sexual activity, is associated with sexual activity in adolescents.

In this study nearly one-half of the songs that contained sexual references also had references to substance use, and songs with sexual references were more likely to contain references to substance use compared with songs without sexual references. This is especially troubling as the use of alcohol has been associated with date or acquaintance rape (Rickert, Wiemann, & Vaughan, 2005). Further investigation is warranted to study the impact on behavior resulting from exposure to musical lyrics containing references to both substance use and sex (Primack, Gold, et al., 2008).

Only 4% of the songs analyzed had references to violence and 2% to weapons use. The frequency of these references is less than for a previous analysis of 111 country music videos in 1994 (DuRant et al., 1997). Additionally, 6 of the 7 songs with weapons use portrayed legal use of weapons.

Artist characteristics appear to be associated with the presence of references to health-risk behaviors in their songs. Male artists were more likely than female artists to have references to health-risk behaviors. In addition, the three artists with the most songs in this analysis, accounting for over 17% of the songs analyzed, had a higher proportion of songs with references to health-risk behaviors compared with all the other artists combined. A song's chart ranking is associated with the frequency of radio airplay (Wikipedia, 2012a(Wikipedia, , 2012b)). A more popular song reaches a larger radio audience a greater number of times, translating to an increase in song-hours. Among all songs studied, the mean chart ranking was significantly higher for those with at least one reference to a health-risk behavior compared with songs without a reference. Based on this analysis, it is unknown whether the use of references to health-risk behaviors contributes to a song's or artist's popularity. Additionally, when adolescents are exposed to songs with references to health-risk behaviors, it is unclear how the artist's sex or popularity influences behavior independent of the reference used. In 1989, the American Academy of Pediatrics (AAP) published recommendations that the music video industry should show self-restraint regarding depictions in the videos they produce (American Academy of Pediatrics & Committee on Communications, 1989). The AAP later published recommendations that music performers should serve as positive role models (American Academy of Pediatrics & Council on Communications and Media, 2009a). Even though the AAP has long recognized the negative influences the media can have on adolescent behavior and has advocated for more responsible musical content, the proportion of top rated country music songs with references to substance use, sex, violence, and/or weapons did not decline during this study and actually increased in years 2007 to 2010 compared with years 2001 to 2002. It is evident that continued and intensive advocacy towards the country music industry is needed to reduce the frequency of references to health-risk behaviors with the intention of lessening the possibility for negative impact on adolescent behavior.

This study had several limitations. First, while observers were trained in ways to detect references to substance use, sex, violence, and weapons use, it was not possible to provide a comprehensive list of obscure, slang, or brand-related terms and phrases. This might have led to an underreporting of health-risk behaviors in this analysis. Second, the number of individual references to substance use was not confirmed through an analysis of written lyrics. Had we performed a separate analysis of written lyrics for this purpose, the number of individual references noted through listening could have been confirmed and a higher number of references to substance use might have been detected. Third, the interobserver reliability for sex, violence, and weapons use was low. However, because a secondlevel review by two blinded and independent observers was required for all songs with references noted by only two initial observers, the specificity for the references detected was likely high. Finally, these findings might not be generalizable to all country music songs as this analysis was limited to the 30 top rated country music songs from each year. It is possible that less popular songs had either a lower or a higher proportion of songs with references to health-risk behaviors.

V.

## 11 Conclusion

In summary, references to substance use and sex occurred commonly in popular country music from 2001 to 2010. The average adolescent aged 15 to 18 years listening to top-rated country music is exposed daily to at least 40 alcohol references. Additional research is warranted to determine the impact on adolescent health that is associated with exposure to health-risk behaviors portrayed in the lyrics of country music and other music genres. Parents, healthcare providers, public health practitioners, and school officials should be aware of the music to which children are listening (American Academy of Pediatrics & Council on Communications and Media, 2009a). Local healthcare providers and public health practitioners should work with their local school systems to incorporate media education into their curricula (American Academy of Pediatrics & Committee on Public Education, 1999). When possible, efforts should be undertaken to limit the exposure of adolescents to music with lyrics that portray health-risk behaviors, particularly alcohol use (Institute of Medicine, 2004), in

an appealing way. Furthermore, country music artists should serve as role models for adolescents (American Academy of Pediatrics & Council on Communications and Media, 2009a) and the country music industry should consider the consequences of lyrics that could negatively influence adolescent behavior.

## 12 VI.

Volume XIV Issue II Version I 87 ( H ) "Write a love song that makes you cry/Then turn right around, knock some jerk to the ground/'Cause he copped a feel as you walked by" Threats of, or actual loss of life "Take all the rope in Texas and find a tall oak tree/Round up all of them bad boys, hang them high in the street/For all the people to see"<sup>1</sup>



Figure 1: Introduction



Figure 2:



Figure 3:

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Figure 4:



Figure 5: Fig. 1 :



Figure 6:

Westerwick S, Musto P, & Shaw K, 2008; Sloane,  
Wilson, &  
E  
Author  
Author  
Christenson, Roberts, & Bjork, 2012; Gruber,  
Thau, Hill, Fisher, & Grube, 2005; Herd, 2005; Knoblach-

Figure 7:

1

Figure 8: Table 1 :

2

Reference type	Example Lyrics b
Explicit use	Substance use
Threats of, or actual	"I"Violence
bodily harm	

Figure 9: Table 2 :

## .1 Acknowledgments

## Reference category

- [Wikipedia (2012)] , Wikipedia . <http://en.wikipedia.org/wiki/Mediabase>. Accessed 2012b. August 1, 2012.
- [ Accessed (2013)] , Accessed . January 15. 2013.
- [Dean et al. (2011)] , A G Dean , K M Sullivan , M M Soe , Openepi . <http://www.OpenEpi.com> June 23, 2011.
- [Sloane et al. ()] ‘A content analysis of the portrayal of alcohol in televised music videos in New Zealand: Changes over time’. K Sloane , N Wilson , F Imlach Gunasekara . *Drug Alcohol Rev* 2013. 32 (1) p. .
- [Gruber et al. ()] ‘Alcohol, tobacco and illicit substances in music videos: a content analysis of prevalence and genre’. E L Gruber , H M Thau , D L Hill , D A Fisher , J W Grube . *J Adolesc Health* 2005. 37 (1) p. .
- [Wikipedia (2012)] *Bob Kingsley’s Country Top 40*, Wikipedia . [http://en.wikipedia.org/wiki/Bob\\_Kingsley's\\_Country\\_Top\\_40](http://en.wikipedia.org/wiki/Bob_Kingsley's_Country_Top_40) 2012a. August 1, 2012.
- [Herd ()] ‘Changes in the prevalence of alcohol use in rap song lyrics’. D Herd . *Addiction* 2005. 100 (9) p. .
- [Christenson et al. ()] P Christenson , D F Roberts , N Bjork . *Booze, drugs, and pop music: trends in substance portrayals in the billboard top*, 2012. 1968-2008. 100 p. .
- [Thompson and Gunther ()] ‘Cigarettes and cinema: does parental restriction of R-rated movie viewing reduce adolescent smoking susceptibility?’. E M Thompson , A C Gunther . *J Adolesc Health* 2007. 40 (2) p. .
- [Connect with country ()] <http://www.slideshare.net/countrymusic/connect-with-country-2012-14637521> *Connect with country*, 2012.
- [Primack et al. ()] ‘Content analysis of tobacco, alcohol, and other drugs in popular music’. B A Primack , M A Dalton , M V Carroll , A A Agarwal , M J Fine . *Arch Pediatr Adolesc Med* 2008. 162 (2) p. .
- [Primack et al. ()] ‘Degrading and non-degrading sex in popular music: a content analysis’. B A Primack , M A Gold , E B Schwarz , M A Dalton . *Public Health Rep* 2008. 123 (5) p. .
- [Rickert et al. ()] ‘Disclosure of date/acquaintance rape: who reports and when’. V I Rickert , C M Wiemann , R D Vaughan . *J Pediatr Adolesc Gynecol* 2005. 18 (1) p. .
- [Dalton et al. ()] ‘Early exposure to movie smoking predicts established smoking by older teens and young adults’. M A Dalton , M L Beach , A M Adachi-Mejia , M R Longacre , A L Matzkin , J D Sargent . *Pediatrics* 2009. 123 (4) p. .
- [Engels et al. ()] ‘Effect of alcohol references in music on alcohol consumption in public drinking places’. R C Engels , G Slettenhaar , T Ter Bogt , R H Scholte . *Am J Addict* 2011. 20 (6) p. .
- [Sargent et al. ()] ‘Effect of parental R-rated movie restriction on adolescent smoking initiation: a prospective study’. J D Sargent , M L Beach , M A Dalton , L T Ernstoff , J J Gibson , J J Tickle , T F Heatherton . *Pediatrics* 2004. 114 (1) p. .
- [Dalton et al. ()] ‘Effect of viewing smoking in movies on adolescent smoking initiation: a cohort study’. M A Dalton , J D Sargent , M L Beach , L Titus-Ernstoff , J J Gibson , M B Ahrens . *Lancet* 2003. 362 (9380) p. .
- [Primack et al. ()] ‘Exposure to cannabis in popular music and cannabis use among adolescents’. B A Primack , E L Douglas , K L Kraemer . *Addiction* 2010. 105 (3) p. .
- [Martino et al. ()] ‘Exposure to degrading versus nondegrading music lyrics and sexual behavior among youth’. S C Martino , R L Collins , M N Elliott , A Strachman , D E Kanouse , S H Berry . *Pediatrics* 2006. 118 (2) p. .
- [Sargent et al. ()] ‘Exposure to movie smoking: its relation to smoking initiation among US adolescents’. J D Sargent , M L Beach , A M Adachi-Mejia , J J Gibson , L T Titus-Ernstoff , C P Carusi . *Pediatrics* 2005. 116 (5) p. .
- [Primack et al. ()] ‘Exposure to sexual lyrics and sexual experience among urban adolescents’. B A Primack , E L Douglas , M J Fine , M A Dalton . *Am J Prev Med* 2009. 36 (4) p. .
- [Rideout et al. ()] *Generation M2: media in the lives of 8-to 18-year-olds*, V Rideout , D Roberts , U Foehr . 2010. Menlo Park, CA: Kaiser Family Foundation.
- [Rideout et al. ()] *Generation M: media in the lives of 8-to 18-year-olds*, V Rideout , D Roberts , U Foehr . 2005. Menlo Park, CA: Kaiser Family Foundation.
- [Glanz et al. ()] *Health behavior and health education*, K Glanz , B K Rimer , F M Lewis . 2002. San Francisco: Jossey-Bass. (3rd ed.)
- [Impact of rock lyrics and music videos on children and youth American Academy of Pediatrics, Committee on Communications] ‘Impact of rock lyrics and music videos on children and youth’. *American Academy of Pediatrics, & Committee on Communications* 1989. 83 (2) p. . (Pediatrics)

- [Hingson et al. ()] ‘Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18-24: changes from’. R Hingson , T Heeren , M Winter , H Wechsler . *Annu Rev Public Health* 2005. 1998 to 2001. 26 p. .
- [Media education American Academy of Pediatrics, Committee on Public Education ()] ‘Media education’. *American Academy of Pediatrics, & Committee on Public Education* 1999. 104 p. . (Pediatrics)
- [Wills et al. ()] ‘Movie exposure to alcohol cues and adolescent alcohol problems: a longitudinal analysis in a national sample’. T A Wills , J D Sargent , F X Gibbons , M Gerrard , M Stoolmiller . *Psychol Addict Behav* 2009. 23 (1) p. .
- [Strasburger ()] ‘Policy statement-children, adolescents, substance abuse, and the media’. V C Strasburger . *American Academy of Pediatrics, & Council on Communications Media* 2010. 126 p. . (Pediatrics)
- [Policy statement-Impact of music, music lyrics, and music videos on children and youth American Academy of Pediatrics, Council on Communications and Media ()] ‘Policy statement-Impact of music, music lyrics, and music videos on children and youth’. *American Academy of Pediatrics, & Council on Communications and Media* 2009a. 124 (5) p. . (Pediatrics)
- [Policy statement-Media violence American Academy of Pediatrics, Council on Communications and Media ()] ‘Policy statement-Media violence’. *American Academy of Pediatrics, & Council on Communications and Media* 2009b. 124 (5) p. . (Pediatrics)
- [Knoblauch-Westerwick et al. ()] ‘Rebellion in the top music charts-defiant messages in rap/hip-hop and rock music 1993 and’. S Knoblauch-Westerwick , P Musto , K Shaw . *Journal of Media Psychology* 2008. 2003. 20 p. .
- [Reducing underage drinking-a collective responsibility ()] *Reducing underage drinking-a collective responsibility*, 2004. Washington D.C.
- [Smoking in top-grossing movies-United States Centers for Disease Control and Prevention ()] ‘Smoking in top-grossing movies-United States’. *Centers for Disease Control and Prevention* 2011. 2010. MMWR. 60 (27) p. .
- [King ()] *Software solutions for obtaining a kappa-type statistic. Paper presented at the 27th Annual Conference of the Southeast Educational Research Association*, J King . 2004. Dallas, TX.
- [Roberts et al. ()] *Substance use in popular movies and music*, D Roberts , L Henricksen , P Christenson . 1999. Rockville, MD: Office of National Drug Control Policy.
- [Robinson et al. ()] ‘Television and music video exposure and risk of adolescent alcohol use’. T N Robinson , H L Chen , J D Killen . *Pediatrics* 1998. 102 (5) p. E54.
- [Bryington et al. ()] ‘The estimation of interobserver agreement in behavioral assessment’. A A Bryington , D J Palmer , M W Watkins . *J Early Intensive Behav Interv* 2004. 1 (1) p. .
- [Mulye et al. ()] ‘Trends in adolescent and young adult health in the United States’. T P Mulye , M J Park , C D Nelson , S H Adams , C E Irwin , Jr , C D Brindis . *J Adolesc Health* 2009. 45 (1) p. .
- [Durant et al. ()] ‘Violence and weapon carrying in music videos. A content analysis’. R H Durant , M Rich , S J Emans , E S Rome , E Allred , E R Woods . *Arch Pediatr Adolesc Med* 1997. 151 (5) p. .
- [Eaton et al. ()] ‘Youth risk behavior surveillance-United States’. D K Eaton , L Kann , S Kinchen , S Shanklin , K H Flint , J Hawkins . *MMWR Surveill Summ* 2012. 2011. 61 (4) p. .