

Adults' Perceptions of Issues Related to Underage Drinking in Idaho

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by

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Executive Summary

The state of Idaho has intensified its efforts to disseminate educational materials and reduce availability of alcohol to minors in recent years. The Idaho Enforcing Underage Drinking Laws (EUDL) task force, affiliated with the Idaho Department of Juvenile Corrections (IDJC) and charged with addressing problems related to underage drinking, has recently introduced new and expanded initiatives that address issues related to alcohol consumption by minors. It has partnered with the state Office of Drug Policy (ODP) and become a member of the state Interagency Committee on Substance Abuse Treatment (ICSA), both of which were established during the 2007 legislative session in response to an identified need for a more comprehensive approach to the prevention of underage drinking. As a part of these efforts, a number of new coalitions were formed and several educational and prevention websites launched. For example, the Regional Alcohol Drug Awareness Resource Network Center (RADAR), in cooperation with EUDL, has prepared and distributed hundreds of tabloids, brochures and other educational materials. These efforts have resulted in some measurable outcomes, including a doubling of the number of agencies involved in task force activities between 2005/2006 and 2009/2010.

Part of the effort to combat underage drinking in Idaho has involved assessing how adult residents perceive a number of issues related to underage drinking. In 2005, IDJC administrators contracted with researchers at Boise State University's Center for Health Policy (CHP) to conduct a pilot survey of adults' perceptions of these issues. CHP researchers performed telephone surveys of residents in 144 randomly selected Idaho households, establishing a baseline of adults' perceptions of issues related to underage drinking. The survey results indicated that adult Idahoans perceived both teenage drinking and drunk driving to be somewhat common in their communities and appeared to be quite concerned about both of these problems. The survey respondents were supportive of restricting youth access to alcohol in almost all circumstances (one exception was in conjunction with religious ceremonies such as communion), and were supportive of enforcement efforts to punish those who provide alcohol to youth and to youth who consume alcohol. They also favored a broad range of bans on alcohol advertising (particularly advertising that seemed to target youth).

The 2011 study described in this report is a replication, on a much larger scale and using a different data collection strategy (due to a small sample captured in the 2005 telephone survey, a mail survey was used in 2011), of the 2005 assessment of adults' perceptions of issues related to underage drinking in Idaho. Using a 40-item survey nearly identical to that used in 2005, CHP researchers mailed 4,500 surveys to adult residents of randomly selected households throughout Idaho. The survey featured separate subscales measuring: 1) perceptions of problems associated with underage drinking; 2) issues related to youth access to alcohol; 3) support for bans on the advertisement of alcoholic beverages; 4) knowledge and beliefs about underage drinking; and 5) adults' own alcohol consumption patterns. Demographic information on the respondents (e.g., geographic location of residents, gender, education level) was also collected. The response rate to the survey, by the time the data collection period ended (surveys continued to be received during the following weeks), was 17%.

Key findings of the 2011 survey are presented below.

Respondents' Demographics:

- A total of 763 respondents completed the survey by the data collection deadline
 - Of the 739 respondents who indicated their gender, over 57% were women and less than 43% were men
 - The percentage of men respondents was significantly higher in 2011 than in 2005 (slightly over 32%)
 - Of the 709 respondents who correctly identified their county of residence, close to 35% reported living in counties coded as urban, 34% reported living in frontier counties, and slightly over 31% reported living in rural counties
 - Of the 740 respondents who reported their education level, close to 82% reported having some higher post-secondary education, with close to 42% reporting having completed some college and nearly 40% reporting having earned either a four-year college degree (close to 24%) or a graduate degree (over 16%). Slightly more than 18% reported having a high school education or less
 - Of the 739 respondents who provided information about whether they presently had children under the age of 18 living in their households, close to 69% reported that they did not, and more than 31% reported that they did
 - A significantly higher percentage of respondents reported having no children under the age of 18 currently in their household in 2011 than in 2005 (slightly over 43%)

Subscale Two: Problems Associated with Alcohol Use:

- The respondents felt that both teenage drinking and drunk driving were quite common in their communities
- The respondents reported being strongly concerned with both teenage drinking and drunk driving in their communities
- The respondents were strongly opposed to lowering the minimum drinking age in Idaho from 21 to 18 years of age
- The respondents believed, on average, that over 62% of American adults and 45% of American teenagers drink alcohol at least several times a week

Subscale Three: Youth Access to Alcohol:

- **On the whole, the respondents seemed to show little to no support for youth having access to alcohol. Specifically, they indicated:**
 - **Ambivalence about whether teenagers should be allowed to drink alcohol in conjunction with religious ceremonies**
 - **Some opposition to allowing teenagers to drink an occasional beer or glass of wine with dinner with their parents**
 - **Very little support for allowing teenagers to drink alcohol with their friends if a parent was home, and almost no support for allowing teenagers to drink alcohol at a party with their friends when no adults were present**
 - **Moderate disagreement with the notion that if teens are going to drink, parents should take responsibility by throwing the party and purchasing the alcohol for their teenagers, and strong disagreement for the notion that it is acceptable for adults to provide alcohol for teenagers**
 - **Some agreement with the notion that it is never acceptable for a person under 21 years old to drink, and strong agreement with the notion that it is never acceptable for an underage person to get drunk**
 - **Little support for allowing minors in lounge or bar areas of a restaurant and a strong opposition to allowing minors in bars**
 - **Some support for “sting” enforcement methods involving trained youth asking adults to purchase alcohol for them, and fairly strong support for a law that provides for penalties for adults who illegally give alcohol to teenagers**

Subscale Four: Advertising Sponsorship:

- **When asked whether they would favor advertising restrictions on alcoholic beverages, the respondents strongly supported banning the use of cartoons and youth-oriented materials on alcohol containers, and fairly strongly supported banning the use of sports teams and athletes to advertise and promote alcoholic beverages and refusing sponsorship by alcohol companies for community events attended by teens. They also showed some support for banning all advertisement of alcoholic beverages on billboards, and weak support for banning all advertisement of beer and wine on TV**

Subscale Five: Knowledge and Beliefs:

Note: All items on this subscale were rated on a 7-point scale, with 1 indicating “strongly disagree” and 7 indicating “strongly agree”

- **The respondents reported fairly strong agreement that advertising for alcoholic beverages should be restricted to make drinking less appealing to minors**
- **Some agreement was expressed with the notion that stores and bars are not careful enough in preventing teenagers from buying alcohol and with the notion that stiffer**

punishments for teenagers who are caught drinking will discourage them from getting alcohol

- **The respondents were ambivalent about whether alcohol policies should be concerned more with people who give or sell alcohol to teenagers and less with teens who drink, and somewhat disagreed with the notion that “kids make mistakes – punishment for teenage drinking shouldn’t be too severe”**

Subscale Six: Consumption Patterns:

- **The respondents reported consuming, on average, at least one alcoholic beverage on 1.3 days per week**
- **The average number of alcoholic drinks the respondents reported consuming during an average week was 2.3**
- **Over 26% of respondents reported that they or a family member/close friend had been seriously injured in an accident involving a drunk driver**
- **Nearly 74% reported that they or a family member/close friend had had a drinking problem**

Group Comparisons and Secondary Analyses:

- **Some differences in response patterns were found on survey items as a function of the demographic characteristics of the respondents**
 - **Many significant differences were found as a function of gender; women had stronger attitudes against underage drinking than men**
 - **Some significant differences were found as a result of education level; people with lower levels of education (e.g., a high school diploma or less) had stronger attitudes against underage drinking than people with higher levels of education (e.g., a college or graduate degree)**
 - **Some significant differences were found as a function of whether or not respondents currently had children under the age of 18 living with them in the home; people with minor children currently in the home were less likely to favor advertising bans than people without minor children in the home**
 - **Some significant differences were found as a function of survey year; attitudes against underage drinking were stronger in 2005 than in 2011**
 - **Nearly no significant differences were found as a function of geographic location (e.g., urban/rural/frontier residency)**
 - **Consumption patterns were related to attitudes about underage drinking; as respondents’ levels of alcohol consumption increased, their attitudes against underage drinking became weaker**

Overview

The state of Idaho has been receiving the federal Enforcing Underage Drinking Laws (EUDL) grant for several years. The primary purpose of this grant, administered through the Idaho Department of Juvenile Corrections (IDJC), is to support state and local agencies and coalitions in addressing problems related to underage drinking. Idaho EUDL has recently partnered with the newly established state Office of Drug Policy (ODP) and is a member of the state Interagency Committee on Substance Abuse Treatment (ICSA). Both ODP and ICSA were established during the 2007 legislative session, in response to a recommendation provided by the Office of Performance Evaluations (OPE) in 2005. Upon conducting a comprehensive evaluation of the substance abuse services delivery system in Idaho, OPE determined that the system in place at that time was fragmented and that a more comprehensive and coordinated approach was needed. ODP, a state agency responsible for coordinating and overseeing a number of activities related to drug and substance abuse throughout Idaho, has since spearheaded a number of initiatives across the state. Likewise, EUDL, in cooperation with ODP and ICSA, has intensified its efforts to disseminate educational materials and reduce availability of alcohol to minors in recent years. In addition, a number of new coalitions have been formed and several new websites launched since 2005 (examples include www.betheparents.org, a prevention website for parents, and www.patridaho.gov, a prevention and treatment research site containing drug and substance abuse-related data). EUDL has also sponsored several educational initiatives in recent years, including provision of support to the Regional Alcohol Drug Awareness Resource Network Center (RADAR) for printing and distribution of tabloids and other educational materials. These efforts have resulted in measurable outcomes. The number of agencies involved in task force activities has doubled from 33 in 2005/2006 to 66 in 2009/2010. The number of earned media events/episodes also increased from 1,671 in 2005/2006 to 27,217 in 2009/2010. In 2009/2010, 23 grantees were involved in innovative activities compared to 11 in 2005/2006. Compliance rates of retail establishments increased from 70% in 2005/2006 to 76% in 2009/2010. These and other indicators are available on the www.patridaho.gov website and are summarized in the FY 2011 Idaho EUDL Application document. Interestingly, the data collected through Youth Risk Behavior Surveillance System (YRBSS) indicate that the percentage of Idaho high school students who reported having consumed at least one alcoholic drink on at least one day decreased from 65.7% in 2005 to 62.5% in 2009 (a reduction of 5%). Likewise, the percentage of Idaho high school students who reported currently consuming alcohol has dropped from 39.8% in 2005 to 34.2% in 2009 (a 15% drop).

In June 2011, IDJC contracted with researchers at the Center for Health Policy (CHP) at Boise State University (BSU) to conduct a statewide survey of Idaho adults' perceptions of issues related to underage drinking to assess the effects of the intensified efforts of Idaho's state agencies to disseminate educational materials and reduce availability of alcohol to minors. A pilot study evaluating these perceptions was conducted in 2005 (McDonald, Pritchard, & Reischl, 2005). The data for the pilot study were collected through a telephone survey of randomly generated Idaho households. As a part of this study, IDJC administrators, in collaboration with CHP researchers, sought to establish a baseline in understanding of Idaho adult residents' perceptions of the frequency of underage drinking, their level of concern about it, and their attitudes toward implementing stronger enforcement efforts and advertising bans to discourage underage persons from drinking and adults from providing access to alcohol. In addition to gaining an understanding of these issues from the perspective of adult Idaho

residents, they were also interested in understanding whether Idaho residents' perceptions varied as a function of their place of residence (whether respondents reported living in areas designated as urban or rural), education level, gender, and whether they had children in their household.

The 2005 assessment of adult Idaho residents' perceptions about underage drinking revealed a number of interesting findings. For example, in regard to problems associated with teenage alcohol use, it was found that adult Idaho residents seemed to feel that both teenage drinking and drunk driving were somewhat common in their communities and appeared to be quite concerned about both of these problems. Interestingly, respondents who reported drinking more often felt that drunk driving in their community was more common. Idaho residents seemed to be strongly opposed to lowering the minimum drinking age from 21 to 18 years. When asked how prevalent they felt alcohol consumption was among American adults and American teenagers, they estimated that close to 60% of Americans adults and 46% of American teenagers consumed alcohol. In terms of perceptions regarding youth access to alcohol, there seemed to be a general agreement that teenagers should not be allowed to consume alcohol in any type of situation, with the exception of drinking in conjunction with religious ceremonies. Generally, there was also fairly strong support for 'sting' operations (with respondents with children in their households being somewhat more likely to endorse such operations than respondents without children in their households). Respondents were also strongly in favor of a law that provided for penalties for adults who illegally give alcohol to teenagers. The most appropriate forms of punishment for underage drinking as perceived by the respondents were either a one-year driver's license suspension (37.8%) or 20 hours of community service (35.7%). In regard to their perceptions of laws governing advertising and sponsorship of alcoholic beverages, the respondents were strongly opposed to several forms of alcohol advertizing (especially the use of billboards in their communities and use of cartoons and youth-oriented music materials on alcoholic beverage bottles, cans and packages), but showed less support for banning all advertisements of beer and wine on TV. In terms of their knowledge and beliefs about teenage drinking, respondents seemed to be strongly supportive of restricting advertisements for alcoholic beverages to make drinking less appealing for minors and reported somewhat strong agreement that stiffer punishments for teenagers who are caught drinking would discourage them from getting alcohol. In regard to their own consumption patterns, the respondents reported consuming an average of 1.26 drinks (12 ounces of beer, four ounces of wine, or one ounce of distilled spirits) during an average week. Nearly 31% of the respondents reported that they or a loved one had been seriously injured in an accident with a drunk driver and close to 70% reported that they or a loved one had had a drinking problems.

In light of the intensified efforts of Idaho's state agencies to disseminate educational materials and reduce availability of alcohol to minors, IDJC contracted with a team of CHP researchers to replicate the pilot study conducted in 2005 to again assess adult Idaho residents' perceptions of problems related to underage drinking and to evaluate whether and to what extent Idaho residents' perceptions of underage drinking has changed between 2005 and 2011. The data collection for the present study was performed in June and July of 2011. The surveys used in 2011 and 2005 were virtually identical, however the procedure for data collection was altered in 2011. Because the number of respondents (144) was relatively low in 2005 when a telephone survey was utilized, it was determined that a mail survey methodology would be used in the present study in hopes of collecting a larger, and therefore more representative, body of data in 2011.

Methodology

The data for the present study were collected through a statewide mail survey of adult Idaho residents randomly sampled from Idaho's nine urban, nine rural and 26 frontier counties. The survey used in the present study was nearly identical to the one utilized in the 2005 pilot study. It consisted of 40 items that were collaboratively developed by CHP researchers and IDJC personnel in 2005. Much like in 2005, the survey items focused on the following four classes of adults' perceptions: 1) perception of problems associated with underage drinking in their communities; 2) when, if ever, it is appropriate for underage youth to have access to alcoholic beverages; 3) the appropriateness of alcohol advertising, particularly in venues attended by youth; and 4) knowledge and beliefs about current and proposed underage drinking enforcement efforts. In addition to questions about respondents' perceptions about underage drinking, questions about respondents' alcohol consumption patterns and their demographics were included in the survey. Respondents were also asked whether they had ever visited betheparents.org website (this addition to the 2011 survey was intended to assess whether adults had accessed educational information on underage drinking provided by the Idaho State Prevention Committee).

Although the survey itself was virtually identical in both present and the 2005 pilot study, the method of data collection was altered in 2011. The data collected through a telephone survey in 2005 resulted in a relatively small sample size—a total of 143 people. In an attempt to increase the number of responses (and therefore the ability to generalize the findings to the greater population of adult Idahoans) in the present study, CHP researchers and IDJC personnel jointly decided to collect data through the use of a large-scale mail survey.

The survey distribution methodology involved the mailing of 4,500 survey packets to randomly generated residential addresses throughout Idaho. The generation of the mailing list and the actual mailing of survey packets were performed by AutoSort, Inc., a Boise-based commercial mailing services company. Because the researchers wanted to make comparisons among responses from adult residents in Idaho's urban, rural, and frontier counties, a stratified random sampling procedure was used in which 1,500 copies of the surveys were sent to residential addresses in each of these three types of counties. The survey packets included a cover letter explaining the purpose of the research as well as the voluntary and anonymous nature of participation, the 40-item survey, and a self-addressed postage-paid envelope for the respondents to return the surveys directly to the researchers at the CHP. The surveys were mailed out during the third week of June, 2011. A total of 767 surveys were returned to the researchers by July 25th, 2011 the end of the data collection period. Thus, for the purposes of this study, the response rate was 17%.

Because a growing number of families of Idaho speak Spanish at home (particularly in extreme southwestern Idaho and along the Snake River plain), and because the researchers did not want to systematically exclude Spanish-speaking respondents, a protocol to survey Spanish speakers in their native language was utilized in the current study (unlike in 2005, when no such option was available). Although all cover letters and surveys were written in English, a paragraph inviting potential respondents to complete the survey in Spanish (written in Spanish) was

included on all cover letters. Respondents wishing to complete the survey in Spanish could contact the researchers either by telephone or email to request a copy of the survey in Spanish (a Spanish-language version was created by a native-Spanish-speaking professor at BSU). No requests for a Spanish-language survey were received; thus, all surveys that were completed were in the English language.

Results and Analyses

Sample Demographics

Gender

Of the 763 respondents who completed a survey, 739 indicated their gender. Of these, 422 (57.2%) were women and 316 (42.8%) were men. The percentage of men as respondents was significantly higher in 2011 than in 2005 (32.4%), χ^2 (df = 1) $p < .05$.

Area of Residence

Area of residence was determined for the 709 respondents who correctly identified their county of residence (a number of respondents misread “county” as “country,” and reported the United States as their county of residence). Counties were then coded as one of nine urban, nine rural, or 26 frontier counties in Idaho. As seen below in Table 1, the distribution of respondents across types of residence areas was fairly equitable, with nearly 35% each of the respondents reporting living in urban and frontier counties, and over 31% reporting living in rural counties.

Area of Residence (County Classification)	Number of Respondents	Percentage of Respondents
Urban	247	34.8
Rural	221	31.2
Frontier	241	34.0

Note. The percentages in this table are calculated out of the 709 respondents who made a valid response to the item. Percentages are rounded to the first decimal place, so the total percentage may not equal 100.

Education Level

When asked to indicate their education level, 97% of the respondents did so. As seen in Table 2, the sample appears quite educated, with nearly 40% of the respondents reporting having either a four-year college degree (nearly 24%) or a graduate degree (over 16%). Nearly 42% of the respondents reported having completed some college education (but did not earn a degree). Slightly more than 18% reported having a high school education or less (there was originally a category for “Less than high school,” but so few people selected this option that it was combined with the high school completion category). Education levels did not differ significantly between respondents in 2005 and 2011.

Education Level	Number of Respondents	Percentage of Respondents
High school	136	18.4
Some college	309	41.8
Four-year college degree	175	23.6
Graduate degree	120	16.2

Note. The percentages in this table are calculated out of the 740 respondents who made a valid response to the item. Percentages are rounded to the first decimal place, so the total percentage may not equal 100.

Children in the Home

All respondents were asked to report whether they currently had children under the age of 18 living in their households. Of the 739 respondents who completed this item, 507 (68.6%) reported that they did not, and 232 (31.4%) reported that they did. The percentage of respondents with no children under the age of 18 currently in their households was significantly higher in 2011 than in 2005 (43.3%), χ^2 (df = 1) $p < .001$.

Survey Results by Subscale

Analytical Notes

As in the report on the 2005 pilot study, the results in this study are reported, in many cases, at multiple levels for each relevant item on the survey. An initial analysis for each item was performed at the aggregate level for 2011 respondents (i.e., the responses of all 2011 respondents are reported together). Secondary analyses were then conducted to examine whether there were differences in responding as a function of respondent demographics (e.g., gender, area of residence) and/or survey year (2011 vs. 2005). Lastly, correlational analyses were conducted to determine whether significant relationships existed between the respondents' self-reported alcohol consumption behavior with their perceptions of issues related to underage drinking.

Problems Associated with Alcohol Use

As noted earlier in this report, the first subscale on the survey addressed respondents' perceptions of problems associated with the use of alcohol (usually by teenagers, but in some cases by adults as well). Seven items on this subscale specifically addressed respondents': 1) perceptions of the commonness of teenage drinking in their communities; 2) perceptions of the commonness of drunk driving in their communities; 3) level of concern about teenage drinking in their communities; 4) level of concern about drunk driving in their communities; 5) opinions about whether they would favor lowering the minimum drinking age from 21 years to 18 years; 6) perceptions of what percentage of American adults drink alcohol at least several times a week; and 7) perceptions of what percentage of American teenagers drink alcohol at least several times per week.

All respondents were asked to report, on 7-point scales, how common they believed teenage drinking and drunk driving were in their communities. On these scales, the numerical value of 1 indicated the perception that these behaviors were “not at all common” and the numerical value of 7 indicated the perception that they were “very common” (the numerical value of 4, as the midpoint of the scale, indicated the perception that the behaviors were neither common nor uncommon). As seen below in Table 3, the respondents perceived underage drinking to be quite common in their communities. Although they perceived drunk driving to be less common than underage drinking in their communities, drunk driving was also perceived to be quite common overall.

Survey Item	Mean	SD
On a scale from 1 (not at all common) to 7 (very common) how common do you feel teenage drinking is in your community?	5.46	1.27
On a scale from 1 (not at all common) to 7 (very common) how common do you feel drunk driving is in your community?	5.10	1.40

Note. In all tables reporting means, the mean represents the arithmetic average of all response values. The standard deviation, reflected in tables as SD, is a measure of the agreement or similarity of responses; higher standard deviations reflect less agreement in response values (a wider range of scores), and lower standard deviations reflect greater agreement (a narrower range of scores).

Secondary analyses on the responses to the item on perceptions of the commonness of teenage drinking revealed a significant difference only as a function of gender. Women (Mean = 5.64, SD = 1.22) perceived teenage drinking to be significantly more common than did men (Mean = 5.20, SD = 1.29), $t(720) = 4.72, p < .001$. Respondents' reported drinking (measured as the number of alcoholic drinks consumed in the average week) was not correlated with perceptions of the commonness of teenage drinking. Secondary analyses on the responses to the item on perceptions of the commonness of drunk driving revealed significant differences as a function of gender and survey year. The first finding was accounted for by women (Mean = 5.30, SD = 1.33) perceiving drunk driving to be significantly more common than men (Mean = 4.79, SD = 1.42). The second finding was accounted for by respondents in 2011 (Mean = 5.10, SD = 1.40) perceiving drunk driving to be more common than respondents in 2005 (Mean = 4.66, SD = 1.48). Finally, a statistically significant negative correlation was found between the respondents' reported drinking and their perception of the commonness of drunk driving. The more respondents reported drinking, the less common they perceived drunk driving to be, $r(709) = -.10, p < .01$.

All respondents were then asked to report, on 7-point scales, how concerned they were about teenage drinking and drunk driving in their communities. On these scales, the numerical value of 1 indicated the respondents were “not at all concerned” and the numerical value of 7 indicated the respondents were “very concerned.” As seen below in Table 4, the respondents were clearly concerned about teenage drinking in their communities. The respondents also reported being very concerned about drunk driving in their communities.

Survey Item	Mean	SD
On a scale from 1 (not at all concerned) to 7 (very concerned) how concerned are you about teenage drinking in your community?	5.70	1.48
On a scale from 1 (not at all concerned) to 7 (very concerned) how concerned are you about drunk driving in your community?	6.14	1.27

Secondary analyses on the responses to the item on concerns about teenage drinking revealed significant differences as a function of gender and survey year. The first finding was accounted for by women (Mean = 5.87, SD = 1.37) reporting being significantly more concerned about teenage drinking than men (Mean = 5.41, SD = 1.63), $t(724) = 4.12, p < .001$. The second finding was accounted for by respondents in 2005 reporting being significantly more concerned about teenage drinking than respondents in 2011, $t(891) = 2.20, p < .05$. A statistically significant negative correlation was found between respondents' reported drinking and level of concern about teenage drinking. Those respondents who reported drinking more were less concerned about teenage drinking, $r(713) = -.18, p < .001$. Secondary analyses on the responses to the item on concerns about drunk driving revealed significant differences only as a function of gender. Women (Mean = 6.29, SD = 1.14) were statistically significantly more concerned about drunk driving than were men (Mean = 5.90, SD = 1.43), $t(724) = 4.08, p < .001$. Finally, a statistically significant correlation was found between the respondents' reported drinking and their concern about drunk driving. The more respondents reported drinking, the less concerned they were about drunk driving, $r(713) = -.16, p < .001$.

All respondents were asked to report, on a 7-point scale, how they would feel about lowering the minimum drinking age in Idaho from 21 to 18 years of age. On this scale, the numerical value of 1 indicated the respondents "strongly oppose" the change and the numerical value of 7 indicated the respondents were "strongly in favor." The mean value of the responses to this item was 2.50 (SD = 2.13), indicating that the respondents clearly opposed changing the drinking age to 18 years (it is noteworthy that the single-most common response value to this item was 1, indicating strong opposition to such a change). Secondary analyses of responses to this item revealed a significant difference only as a function of gender. Women (Mean = 2.35, SD = 2.04) were statistically significantly more opposed to lowering the drinking age than were men (Mean = 2.68, SD = 2.20), $t(723) = -2.14, p < .05$. Finally, a statistically significant correlation was found between the respondents' reported drinking and their feelings about lowering the drinking age from 21 years to 18. The more respondents reported drinking, the more they supported lowering the drinking age, $r(724) = .21, p < .001$.

The next two questions asked the respondents to report how often they believed American adults and teenagers drank alcohol. Specifically, the first question asked the respondents what percentage of American adults they believed drink alcohol at least several times a week, and the second question asked for the same perception, only this time about American teenagers. As seen below in Table 5, the respondents believed that over 62% of American adults drink alcohol at least several times a week, and that around 45% of American teenagers drink alcohol at least several times a week.

Table 5: Mean Percentage of American Adults and Teenagers Who Were Believed to Drink Alcohol At Least Several Times a Week		
Survey Item	Mean	SD
What percentage of American adults would you say drink alcohol at least several times a week?	62.46	18.35
What percentage of American teenagers would you say drink alcohol at least several times a week?	44.99	22.24

Secondary analyses were performed on the responses to the item on the perceived prevalence of drinking by American adults, and significant differences were found as a function of gender, whether respondents had children under 18 in the home, and survey year. The first finding was accounted for by women (Mean = 65.14, SD = 17.40) reporting believing a significantly higher percentage of American adults drink at least several times a week than men (Mean = 58.28, SD = 18.64), $t(682) = 4.95, p < .001$. The second finding was accounted for by respondents without minor children in the home (Mean = 63.26, SD = 17.86) reporting believing a significantly higher percentage of American adults drink at least several times a week than respondents with minor children in the home (Mean = 60.06, SD = 18.98), $t(680) = 2.15, p < .05$. The third finding was accounted for by respondents in 2011 (Mean = 62.46, SD = 18.35) reporting believing a significantly higher percentage of American adults drink at least several times a week than respondents in 2005 (Mean = 58.90, SD = 20.03), $t(840) = -2.06, p < .05$.

Secondary analyses on the responses to the item on the perceived prevalence of drinking by American teenagers revealed significant differences as a function of gender, education level, whether respondents had children under 18 in the home, and geographical location. The first finding was accounted for by women (Mean = 48.20, SD = 21.73) reporting believing a significantly higher percentage of American teenagers drink at least several times a week than men (Mean = 40.11, SD = 21.79), $t(677) = 4.79, p < .001$. The second finding was accounted for by respondents with a high school education (Mean = 51.50, SD = 22.73) reporting believing a significantly higher percentage of American teenagers drink at least several times a week than respondents with a four-year college degree (Mean = 40.34, SD = 21.71), and a graduate degree (Mean = 43.05, SD = 20.37), $F(3, 677) = 6.30, p < .001$. The third finding was accounted for by respondents without minor children in the home (Mean = 46.94, SD = 22.28) reporting believing a significantly higher percentage of American teenagers drink at least several times a week than respondents with minor children in the home (Mean = 40.44, SD = 21.09), $t(676) = 3.63, p < .001$. The fourth finding was accounted for by respondents in frontier areas (Mean = 47.89, SD = 22.24) reporting believing a significantly higher percentage of American teenagers drink at least several times a week than respondents in urban areas (Mean = 40.78, SD = 22.12), $F(2, 646) = 6.02, p < .01$. Finally, a statistically significant correlation was found between the respondents' reported drinking and their perceptions of the prevalence of teenage drinking. The more the respondents reported drinking, the lower the percentage of American teenagers they believed to drink at least several times a week, $r(666) = -.16, p < .001$.

Youth Access to Alcohol

The second subscale on the survey was targeted to assess respondents' perceptions of whether it is acceptable for youth to have access to alcohol. Fourteen items on the subscale asked respondents to report their levels of agreement with various statements on 7-point scales where the response value of 1 indicated "strongly disagree" and the response value of 7 indicated "strongly agree." Specifically, the respondents were asked to report whether they agreed that: 1) teenagers should be allowed to drink alcohol in conjunction with religious ceremonies (e.g., wine with communion); 2) teenagers should be allowed to drink an occasional beer or glass of wine with dinner with their parents; 3) teenagers should be allowed to drink alcohol with their friends as long as a parent is home; 4) teenagers should be allowed to drink alcohol at a party with their friends when no adults are present; 5) if teens are going to drink, parents should take responsibility by throwing the party and purchasing alcohol for their teenagers; 6) people sometimes make "too big of a deal" about underage drinking; 7) it is acceptable for adults to provide (buy or supply) alcohol for teenagers; 8) it is never okay for a person under 21 to drink alcohol; 9) it is never okay for an underage person to get drunk; 10) minors under 21 should be allowed in lounge or bar areas of a restaurant; 11) minors under 21 should be allowed in bars; 12) police using specially trained teens to ask adults outside liquor stores to purchase alcohol for them and citing or ticketing adults who make the purchase is an acceptable enforcement method; and 13) laws should provide penalties for adults who illegally purchase or supply alcohol to minors. A final item used a different response format, and asked the respondents to select an appropriate punishment (among six listed options) for teens who are caught drinking alcohol.

As seen below in Table 6, the respondents' attitudes toward youth access to alcohol varied somewhat depending on the setting. As a whole, the respondents did not support youth having access to alcohol in any situation, however, levels of opposition differed somewhat. For example, there was very little support for the notions that teenagers should be able to drink alcohol with friends at home or a party, whether or not an adult was present. There was also very little support for the notion that it is acceptable for parents or adults to provide alcohol to teenagers. There was slightly less (though still somewhat strong) opposition to the notion that teenagers should be able to have an occasional beer or glass of wine at dinner with their parents, and less opposition to the notion that teenagers should be allowed to drink alcohol in conjunction with religious ceremonies. The respondents did not agree that teenagers should be allowed in the lounge or bar areas of restaurants, and were particularly opposed to teenagers being allowed in bars. They showed somewhat strong agreement with the notion that it is never acceptable for a minor to drink alcohol, and strong agreement with the notion that it is never acceptable for a minor to get drunk. Finally, with respect to enforcement of laws barring youth access to alcohol, the respondents showed somewhat strong support for "sting" operations targeting people who buy alcohol for teenagers, and strong support for penalties for adults who provide alcohol to teenagers.

Survey Item	Mean	SD
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that teenagers should be allowed to drink alcohol in conjunction with religious ceremonies (e.g., wine with communion)?	3.96	2.35
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that teenagers should be allowed to drink an occasional beer or glass of wine with dinner with their parents?	3.03	2.18
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that teenagers should be allowed to drink alcohol with their friends as long as a parent is home?	1.82	1.45
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that teenagers should be allowed to drink alcohol at a party with their friends when no adults are present?	1.32	1.07
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that if teens are going to drink, parents should take responsibility by throwing the party and purchasing the alcohol for their teenagers?	1.68	1.49
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that it is acceptable for adults to provide (buy or supply) alcohol for teenagers?	1.35	1.03
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you, do you agree that it is never okay for a person under 21 years old to drink?	4.70	2.27
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you, do you agree that it is never okay for an underage person to get drunk?	5.75	2.09
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you, do you agree that minors (under 21) should be allowed in lounge (bar) <u>areas</u> of a restaurant?	2.82	2.00
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you, do you agree that minors (under 21) should be allowed in bars?	1.98	1.67
Sometimes police use specially trained teens to ask adults outside liquor stores to purchase alcohol for them and then cite or ticket those adults who make the purchase. On a scale from 1 (strongly disagree) to 7 (strongly agree), do you, do you agree with this enforcement method?	4.95	2.24
Often teenagers get alcohol from older youth or adults who buy it for them. On a scale from 1 (strongly oppose) to 7 (strongly favor), how strongly would you favor or oppose a law that provided for penalties for older persons who illegally give alcohol to teenagers?	5.93	1.53

Secondary analyses of the youth access items revealed significant differences as a function of gender on five of the 12 items. The first finding was accounted for by women (Mean = 2.90, SD = 2.15) showing less agreement that teenagers should be allowed an occasional drink with their parents than men (Mean = 3.25, SD = 2.23), $t(727) = -2.19, p < .05$. The second finding was accounted for by women (Mean = 2.69, SD = 1.96) showing less agreement that teenagers should be allowed in lounge or bar areas of restaurants than men (Mean = 2.99, SD = 2.03), $t(721) = -2.01, p < .05$. The third finding was accounted for by women (Mean = 1.82, SD = 1.53) showing less agreement that teenagers should be allowed in bars than men (Mean = 2.16, SD = 1.79), $t(726) = -2.71, p < .01$. The fourth finding was accounted for by women (Mean = 2.90, SD = 2.15) showing more support for “sting” enforcement methods than men (Mean = 3.25, SD = 2.23), $t(724) = 4.36, p < .001$. The fifth finding was accounted for by women (Mean = 6.07, SD = 1.40) showing more support for laws that provide penalties for adults who give alcohol to teenagers than men (Mean = 5.73, SD = 1.68), $t(723) = 3.04, p < .01$. Overall, the results of

these secondary analyses reveal that women have stronger attitudes against youth access to alcohol than men.

Secondary analyses of the youth access items revealed significant differences as a function of education level on four of the 12 items. The first finding was accounted for by respondents with a high school education (Mean = 3.41, SD = 2.31) and some college (Mean = 3.83, SD = 2.36) showing less agreement that teenagers should be allowed to drink alcohol in conjunction with religious ceremonies than respondents with a four-year college degree (Mean = 4.42, SD = 2.28) and a graduate degree (Mean = 4.44, SD = 2.27), $F(3, 720) = 6.67, p < .001$. The second finding was accounted for by respondents with a high school education (Mean = 2.60, SD = 1.90) and some college (Mean = 2.89, SD = 2.15) showing less agreement that teenagers should be allowed an occasional drink with their parents than respondents with a four-year college degree (Mean = 3.33, SD = 2.31) and a graduate degree (Mean = 3.59, SD = 2.29), $F(3, 727) = 5.82, p < .01$. The third finding was accounted for by respondents with some college education (Mean = 4.97, SD = 2.22) showing more agreement that it is never acceptable for minors to drink alcohol than respondents with a four-year college degree (Mean = 4.41, SD = 2.27) and a graduate degree (Mean = 4.19, SD = 2.30), $F(3, 721) = 4.74, p < .01$. The fourth finding was accounted for by respondents with a high school education (Mean = 1.82, SD = 1.51) showing less agreement that minors should be allowed in bars than respondents with a graduate degree (Mean = 2.39, SD = 1.96), $F(3, 727) = 3.11, p < .05$. Overall, the results of these secondary analyses reveal that respondents with less education (i.e., a high school education or with some college education) have stronger attitudes against youth access to alcohol than those with more education (a four-year college degree or a graduate degree).

Secondary analyses of the youth access items revealed significant differences as a function of survey year on five of the 12 items. The first finding was accounted for by respondents in 2005 (Mean = 1.43, SD = 1.07) showing less agreement that teenagers should be allowed to drink with friends if a parent is home than respondents in 2011 (Mean = 1.82, SD = 1.45), $t(895) = -3.03, p < .01$. The second finding was accounted for by respondents in 2005 (Mean = 1.36, SD = 1.12) showing less agreement that if teenagers are going to drink, parents should take responsibility by hosting the party and buying the alcohol than respondents in 2011 (Mean = 1.68, SD = 1.49), $t(888) = -2.42, p < .05$. The third finding was accounted for by respondents in 2005 (Mean = 1.51, SD = 1.37) showing less agreement that minors should be allowed in bars than respondents in 2011 (Mean = 1.98, SD = 1.67), $t(888) = -3.15, p < .01$. The fourth finding was accounted for by respondents in 2005 (Mean = 5.38, SD = 2.25) showing more support for “sting” enforcement methods than respondents in 2011 (Mean = 4.95, SD = 2.24), $t(724) = 2.10, p < .05$. The fifth finding was accounted for by respondents in 2005 (Mean = 6.25, SD = 1.55) showing more support for laws that provide penalties for adults who give alcohol to teenagers than respondents in 2011 (Mean = 5.93, SD = 1.53), $t(884) = 2.27, p < .05$. Overall, the results of these secondary analyses reveal that respondents in 2005 had stronger attitudes against youth access to alcohol than respondents in 2011.

The final set of secondary analyses on the youth access items involved conducting correlations between the respondents’ self-reported drinking behavior and their responses to each of the 12 items. Significant correlations were found between self-reported drinking and responses on 11 of the 12 items. These correlations showed that as self-reported alcohol drinking increased: 1)

agreement that teenagers should be able to drink alcohol in conjunction with religious ceremonies increased, $r(709) = .18, p < .001$; 2) agreement that teenagers should be allowed to drink an occasional beer or glass of wine with dinner with their parents increased, $r(715) = .25, p < .001$; 3) agreement that teenagers should be able to drink alcohol with their friends if a parent is home increased, $r(717) = .16, p < .001$; 4) agreement that teenagers should be allowed to drink alcohol at a party with no adults present increased, $r(717) = .13, p < .001$; 5) agreement that if teenagers are going to drink, parents should take responsibility by hosting the party and buying the alcohol increased, $r(713) = .12, p < .01$; 6) agreement that it is never acceptable for a minor to drink alcohol decreased, $r(709) = -.19, p < .001$; 7) agreement that it is never acceptable for a minor to get drunk decreased, $r(712) = -.10, p < .01$; 8) agreement that minors should be allowed in lounge or bar areas of restaurants increased, $r(711) = .17, p < .001$; 9) agreement that minors should be allowed in bars increased, $r(715) = .11, p < .01$; 10) support for “sting” enforcement methods decreased, $r(715) = -.10, p < .01$; and 11) support for laws that provide penalties of adults who give alcohol to teenagers decreased, $r(713) = -.20, p < .001$. Overall, the results of these secondary analyses reveal that higher alcohol consumption is associated with more lenient attitudes about youth access to alcohol.

Advertising Sponsorship

The third subscale on the survey was targeted to assess respondents’ perceptions of laws governing advertising and sponsorship of alcoholic beverages. Five items on the subscale asked respondents to report their levels of agreement with various statements on 7-point scales where the response value of 1 indicated “strongly disagree” and the response value of 7 indicated “strongly agree.” Specifically, the respondents were asked to report whether they agreed that: 1) they would favor a law that would ban all advertisements of alcoholic beverages on billboards in their community; 2) they would favor a law banning the use of cartoons and youth-oriented music materials on alcoholic beverage bottles, cans, and packages; 3) they would favor a law banning the use of sports teams and athletes as symbols in advertising and promotion of alcoholic beverages; 4) they would recommend to community planners that they refuse sponsorship by alcohol companies for events attended by teens; and 5) they would favor a law banning all advertisement of beer and wine on TV.

As seen below in Table 7, the respondents clearly seemed in favor of advertising restrictions on alcoholic beverages, although their levels of support differed somewhat as a function of the type of restriction. For example, support for banning the use of cartoons and youth-oriented materials on alcohol containers was strong. Support for banning the use of sports teams and athletes to advertise and promote alcoholic beverages was quite strong, as was a desire to refuse sponsorship by alcohol companies for community events attended by teens. Support for banning all advertisements of alcoholic beverages on community billboards was somewhat strong, whereas support for banning all advertisement of beer and wine on television was more lukewarm.

Survey Item	Mean	SD
On a scale from 1 (strongly disagree) to 7 (strongly agree) would you favor a law that would ban all advertisements of alcoholic beverages on billboards in my community?	4.93	2.24
On a scale from 1 (strongly disagree) to 7 (strongly agree) would you favor a law banning the use of cartoons and youth-oriented music materials on alcoholic beverage bottles, cans, and packages?	5.80	1.88
On a scale from 1 (strongly disagree) to 7 (strongly agree) would you favor a law banning the use of sports teams and athletes as symbols in advertising and promotion of alcoholic beverages?	5.40	2.09
On a scale from 1 (strongly disagree) to 7 (strongly agree) would you recommend to community planners that they refuse sponsorship by alcohol companies for events attended by teens?	5.31	2.09
On a scale from 1 (strongly disagree) to 7 (strongly agree) would you favor a law banning all advertisement of beer and wine on TV?	4.37	2.38

Secondary analyses of the advertising sponsorship items revealed significant differences as a function of gender on all five of the items. The first finding was accounted for by women (Mean = 5.34, SD = 2.03) showing more support for banning all alcohol advertisement on community billboards than men (Mean = 4.32, SD = 2.39), $t(720) = 6.19, p < .001$. The second finding was accounted for by women (Mean = 6.08, SD = 1.63) showing more support for banning the use of cartoons and youth-oriented music materials on alcoholic beverage containers and packaging than men (Mean = 5.37, SD = 2.13), $t(724) = 5.09, p < .001$. The third finding was accounted for by women (Mean = 5.68, SD = 1.91) showing more support for banning the use of sports teams and athletes in the advertising and promotion of alcoholic beverages than men (Mean = 4.96, SD = 2.28), $t(717) = 4.65, p < .001$. The fourth finding was accounted for by women (Mean = 5.63, SD = 1.91) showing more support for recommending to community planners that they refuse sponsorship by alcohol companies for events attended by teens than men (Mean = 4.81, SD = 2.26), $t(722) = 5.32, p < .001$. The fifth finding was accounted for by women (Mean = 4.71, SD = 2.33) showing more support for a law banning all advertisement of beer and wine on television than men (Mean = 3.82, SD = 2.37), $t(720) = 5.05, p < .001$. Overall, the results of these secondary analyses reveal that women more strongly support bans on alcohol advertising than men.

Secondary analyses of the advertising sponsorship items revealed significant differences as a function of whether the respondents had children under the age of 18 living in the home on three of the five items. The first finding was accounted for by respondents without minor children in the home (Mean = 5.56, SD = 2.04) showing more support for banning the use of sports teams and athletes in the advertising and promotion of alcoholic beverages than respondents with minor children in the home (Mean = 4.98, SD = 2.19), $t(720) = 3.46, p < .01$. The second finding was accounted for by respondents without minor children in the home (Mean = 5.42, SD = 2.08) showing more support for recommending to community planners that they refuse sponsorship by

alcohol companies for events attended by teens than respondents with minor children in the home (Mean = 5.03, SD = 2.13), $t(723) = 2.32, p < .05$. The third finding was accounted for by respondents without minor children in the home (Mean = 4.55, SD = 2.34) showing more support for a law banning all advertisement of beer and wine on television than respondents with minor children in the home (Mean = 3.91, SD = 2.43), $t(721) = 3.36, p < .01$. Overall, the results of these secondary analyses reveal that respondents without minor children in the home more strongly support bans on alcohol advertising than respondents with minor children in the home.

The final set of secondary analyses on the advertising sponsorship items involved conducting correlations between the respondents' self-reported drinking behavior and their responses to each of the five items. Significant correlations were found between self-reported drinking and responses on all five items. These correlations showed that as self-reported alcohol drinking increased, support decreased for bans: 1) on alcohol advertising on community billboards, $r(708) = -.27, p < .001$; 2) on the use of cartoons and youth-oriented material on alcohol products, $r(712) = -.25, p < .001$; 3) on the use of sports teams and athletes in advertising and promoting alcoholic beverages, $r(706) = -.24, p < .001$; 4) on sponsorship by alcohol companies for community events attended by teens, $r(710) = -.23, p < .001$; and 5) all advertisements of beer and wine on television, $r(708) = -.29, p < .001$.

Knowledge/Beliefs

The fourth subscale on the survey was targeted to assess respondents' knowledge and beliefs about teenage drinking. Five items on the subscale asked respondents to report their levels of agreement with various statements on 7-point scales where the response value of 1 indicated "strongly disagree" and the response value of 7 indicated "strongly agree." Specifically, the respondents were asked to report whether they agreed that: 1) alcohol policies should be concerned more with people who give or sell alcohol to teenagers and less with teens who drink; 2) stiffer punishments for teenagers who are caught drinking will discourage them from getting alcohol; 3) advertisements for alcoholic beverages should be restricted to make drinking less appealing for kids; 4) stores and bars are not careful enough in preventing teenagers from buying alcohol; and 5) kids make mistakes – punishments for teenage drinking shouldn't be too severe.

As seen below in Table 8, the respondents reported rather different levels of agreement in response to the items on the fourth subscale. For example, they reported rather strong agreement that advertising for alcoholic beverages should be restricted to make drinking less appealing to youth. They also showed some agreement with the statement that stores and bars are not careful enough in preventing teenagers from buying alcohol, and some agreement that stiffer penalties for teenagers caught drinking would discourage teenagers from getting alcohol. On the other hand, the respondents seemed ambivalent about whether alcohol policies should be concerned more with people who provide alcohol to teenagers or with teens who drink. They somewhat disagreed with the statement that "kids make mistakes – punishment for teenage drinking shouldn't be too severe."

Survey Item	Mean	SD
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that alcohol policies should be concerned more with people who give or sell alcohol to teenagers and less with teens who drink?	3.97	1.83
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that stiffer punishments for teenagers who are caught drinking will discourage them from getting alcohol?	4.35	2.03
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that advertisements for alcoholic beverages should be restricted to make drinking less appealing for kids?	5.36	1.96
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that stores and bars are not careful enough in preventing teenagers from buying alcohol?	4.48	1.88
On a scale from 1 (strongly disagree) to 7 (strongly agree), do you agree that kids make mistakes – punishments for teenage drinking shouldn't be too severe?	3.01	1.77

Secondary analyses of the knowledge/belief items revealed significant differences as a function of gender on two of the five items. The first finding was accounted for by women (Mean = 5.61, SD = 1.82) agreeing more with the notion that advertising for alcohol should be restricted to make drinking less appealing to kids than men (Mean = 5.00, SD = 2.10), $t(718) = 4.11, p < .001$. The second finding was accounted for by women (Mean = 4.64, SD = 1.81) showing more agreement with the notion that stores and bars are not careful enough in preventing teens from buying alcohol than men (Mean = 4.21, SD = 1.94), $t(708) = 3.08, p < .01$.

Secondary analyses of the knowledge/belief items revealed significant differences as a function of education level on four of the five items. The first finding was accounted for by respondents with a high school education (Mean = 4.37, SD = 1.98) agreeing more with the notion that alcohol policies should be concerned more with people who give or sell alcohol to teenagers and less with teens who drink than respondents with a graduate degree (Mean = 3.74, SD = 1.79), $F(3, 706) = 2.89, p < .05$. The second finding was accounted for by respondents with a high school education (Mean = 4.88, SD = 1.96) agreeing more with the notion that stiffer punishments for teenagers who are caught drinking will discourage them from getting alcohol than those respondents with a four-year college degree (Mean = 4.02, SD = 1.89) and those with a graduate degree (Mean = 4.12, SD = 2.05), $F(3, 718) = 5.02, p < .01$. The third finding was accounted for by respondents with a high school education (Mean = 5.03, SD = 1.79) showing more agreement with the notion that stores and bars are not careful enough in preventing teens from buying alcohol than respondents with some college education (Mean = 4.42, SD = 2.01), a four-year college degree (Mean = 4.24, SD = 1.77), and a graduate degree (Mean = 4.28, SD = 1.74), $F(3, 707) = 5.22, p < .01$. The fourth finding was accounted for by those respondents with a high school education (Mean = 2.98, SD = 1.86) and some college education (Mean = 2.79, SD = 1.69) showing less agreement with the notion that kids make mistakes, so punishment for teenage drinking should not be too severe than respondents with a four-year college degree

(Mean = 3.22, SD = 1.77) and a graduate degree (Mean = 3.25, SD = 1.79), $F(3, 716) = 3.17, p < .05$.

Secondary analyses of the knowledge/belief items revealed significant differences as a function of whether the respondents had children under the age of 18 living in the home on three of the five items. The first finding was accounted for by respondents without minor children in the home (Mean = 4.11, SD = 1.91) agreeing more with the notion that alcohol policies should be concerned more with people who give or sell alcohol to teenagers and less with teens who drink than respondents with minor children in the home (Mean = 3.64, SD = 1.59), $t(706) = 3.19, p < .01$. The second finding was accounted for by respondents without minor children in the home (Mean = 5.49, SD = 1.90) agreeing more with the notion that advertising for alcohol should be restricted to make drinking less appealing to kids than respondents with minor children in the home (Mean = 5.04, SD = 2.08), $t(718) = 2.88, p < .01$. The third finding was accounted for by respondents without minor children in the home (Mean = 4.66, SD = 1.86) showing more agreement with the notion that stores and bars are not careful enough in preventing teens from buying alcohol (Mean = 4.05, SD = 1.88), $t(709) = 4.09, p < .001$.

Secondary analyses of the knowledge/belief items revealed significant differences as a function of survey year on two of the five items. The first finding was accounted for by respondents in 2005 (Mean = 5.83, SD = 1.71) agreeing more with the notion that advertising for alcohol should be restricted to make drinking less appealing to kids than respondents in 2011 (Mean = 5.38, SD = 1.96), $t(874) = 2.57, p < .05$. The second finding was accounted for by respondents in 2005 (Mean = 3.56, SD = 1.96) showing more agreement with the notion that kids make mistakes, so punishment for teenage drinking should not be too severe than respondents in 2011 (Mean = 3.01, SD = 1.77), $t(870) = 3.26, p < .01$.

The final set of secondary analyses on the knowledge/belief items involved conducting correlations between the respondents' self-reported drinking behavior and their responses to each of the five items. Significant correlations were found between self-reported drinking and responses on four of the five items. The first three of these correlations showed that as self-reported alcohol drinking increased, agreement decreased with the notions that: 1) stiffer penalties for teenagers who are caught drinking will discourage them from getting alcohol, $r(706) = -.19, p < .001$; 2), advertising for alcohol should be restricted to make drinking less appealing to kids $r(705) = -.19, p < .001$; and 3) stores and bars are not careful enough in preventing teens from buying alcohol, $r(695) = -.21, p < .001$. The final significant correlation showed that as self-reported alcohol drinking increased, agreement increased with the notion that kids make mistakes, so punishment for teenage drinking should not be too severe, $r(703) = .18, p < .001$.

Consumption Patterns

The final section on the survey concerned the respondent's own alcohol consumption patterns. The respondents were asked to indicate on how many days during an average week they consume at least one alcoholic drink, and also to indicate how many drinks they consume during the average week (one drink was defined on the survey as 12 ounces of beer, four ounces of wine, or one ounce of spirits). In addition, the respondents were asked whether they, any family

member, or close friend had ever been seriously injured in an accident involving a drunk driver and whether they, a family member, or close friend ever had a drinking problem.

As seen below in Table 12, the respondents reported low levels of alcohol consumption; the average number of days per week that respondents reported having at least one alcoholic drink was approximately 1.3, and the average number of alcoholic drinks they reported consuming during an average week was approximately 2.3.

Survey Item	Mean	SD
During an average week, on how many days do you have at least one alcoholic drink?	1.29	2.02
During an average week, how many drinks do you have (One drink = 12 ounces of beer, 4 ounces wine, 1 ounce spirits)?	2.28	5.68

Secondary analyses on the responses to the item on how many days during the average week the respondents have at least one alcoholic drink revealed significant differences as a function of gender, education level, and survey year. The first finding was accounted for by women (Mean = .91, SD = 1.63) reporting drinking alcohol on fewer days in an average week than men (Mean = 1.81, SD = 2.36), $t(712) = -6.06, p < .001$. The second finding was accounted for by respondents with a high school education (Mean = .94, SD = 1.74) and some college education (Mean = 1.16, SD = 1.93) reporting drinking alcohol on fewer days in an average week than those respondents with a graduate degree (Mean = 1.77, SD = 2.30), $F(3, 713) = 4.55, p < .01$. The third finding was accounted for by respondents in 2005 (Mean = .79, SD = 1.57) reporting drinking alcohol on fewer days in an average week than respondents in 2011 (Mean = 1.29, SD = 2.02), $t(860) = -2.77, p < .01$. Secondary analyses on the responses to the item on how many drinks the respondents have during an average week revealed significant differences as a function of gender and survey year. The first finding was accounted for by women (Mean = 1.26, SD = 2.68) reporting drinking fewer alcoholic beverages in an average week than men (Mean = 3.63, SD = 7.92), $t(713) = -5.62, p < .001$. The second finding was accounted for by respondents in 2005 (Mean = 1.26, SD = 4.48) reporting drinking fewer alcoholic beverages in an average week than respondents in 2011 (Mean = 2.28, SD = 5.68), $t(859) = -1.99, p < .05$.

With respect to the questions concerning whether the respondents, their family members, or close friends had either been involved in an automobile accident or had a drinking problem, the respondents gave interesting reports. As displayed below in Table 13, over one-fourth of the respondents reported that they or a family member/close friend had been seriously injured in an accident with a drunk driver, and nearly three-fourths reported that they or a family member/close friend had had a drinking problem.

Survey Item	Number of Respondents Responding “Yes”	Percentage of Respondents
Have you or any family member or close friend ever been seriously injured in an accident involving a drunk driver?	195	26.3%
Have you or a family member or close friend ever had a drinking problem?	547	73.9%

Secondary analyses on the responses to the item on whether the respondents or a family member or close friend had been seriously injured in an accident involving a drunk driver revealed no statistically significant differences as a function of any of the demographic variables. Secondary analyses on the item on whether the respondents or a family member or close friend had been seriously injured in an accident involving a drunk driver revealed significant differences as a function of gender, education level, and whether or not the respondents had a child under the age of 18 living in the home. The first result was accounted for by women (76.7%) more often reporting that they or a family member/close friend had ever had a drinking problem than men (70.2%), χ^2 (df = 1) = 3.89, $p < .05$. The second result was accounted for by respondents with a high school education (80.0%) and some college education (76.3%) more often reporting that they or a family member/close friend had ever had a drinking problem than respondents with a four-year college degree (69.2%) and a graduate degree (67.5%), χ^2 (df = 3) = 8.05, $p < .05$. The third result was accounted for by respondents without minor children in the home (76.6%) more often reporting that they or a family member/close friend had ever had a drinking problem than respondents with minor children in the home (67.2%), χ^2 (df = 1) = 7.16, $p < .01$.

Summary and Conclusions

The material in this report describes the results of the 2011 survey of adult Idahoans' perceptions of issues related to underage drinking. In this report, the method of data collection and results are presented. To this point, the results have been discussed with a focus on individual findings, without much attempt to understand them as a more coherent whole. In the final section of this report, a more comprehensive overview of the results and their implications will be presented, with special emphasis on several themes, including the methodology, overall findings from the sample as a whole, and important differences in perceptions as a function of demographic characteristics such as respondent gender.

Methodology

As noted earlier, the 2011 survey of Idaho adults' perceptions of issues related to underage drinking was the second such survey; a pilot survey effort, using a nearly identical survey instrument, was performed in 2005 (McDonald et al., 2005). One of the drawbacks to the 2005 survey effort was the inability to gain a large, representative sample through a telephone survey methodology. Although CHP researchers placed calls to nearly 1,500 randomly generated residential addresses, only 143 individuals completed a survey. Such a low response rate and sample size limited the ability to confidently generalize the results from the sample to the greater population at large. It is likely that the increased use of mobile or cellular phones, which often have unlisted numbers not available to telephone survey databases companies, and the widespread use of 'Caller ID' limited the success of the telephone survey (Curtin, Presser, & Singer [2005] describe these factors, among others, as causes for the steep decline in telephone survey response rates). For this reason, in 2011, a large-scale mail survey procedure was used. It is quite clear that the mail survey methodology was an improvement over the telephone survey procedure. Although it was certainly more expensive to mail 4,500 surveys than it was to place nearly 1,500 telephone calls, the expense seemed to pay off; a total of 767 respondents completed the survey by the end of the data collection period (an additional 34 surveys were received after the end of this period, and therefore were not analyzed). With 767 respondents, the ability to generalize the results from the sample to the greater population is quite good; the confidence level (or "margin of error") of the results is 3.6%, which is very close to the scientific "gold standard" of 3%. In other words, readers of this report can be much more confident that the results of the 2011 accurately represent adults' true perceptions of issues related to underage drinking than could readers of the 2005 report (McDonald et al., 2005). An additional improvement of the 2011 survey effort was the availability of the survey in Spanish. Although no potential respondents requested a survey in Spanish, it can be concluded that no Spanish-speaking potential respondents were systematically excluded from participation, which was essentially the case in the 2005 telephone survey.

Although there were clearly methodological improvements in the 2011 mail survey compared to the 2005 telephone survey, there were still limitations to the 2011 methodology. One involved the ability to accurately calculate a valid response rate. When the surveys were mailed by Autosort, Inc., the researchers did not stipulate that the mailing envelopes be marked "Return Service Requested." This means that surveys that did not reach the intended recipients (due to address changes, incorrect addressing, ect.) were not returned to the researchers; instead, they

were merely returned to the Post Office and therefore remained unaccounted for. Usually in mail survey research, returned surveys are used to adjust the response rate (for example, if 200 surveys were returned to sender because they did not reach the intended recipient, the denominator in the response rate equation for the current study would be 4,300 rather than 4,500—therefore increasing the response rate). Because returned surveys were not accounted for, it is likely that the response rate reported for the 2011 survey is systematically underestimated, or inaccurately low. A second limitation (which was also certainly a limitation in the 2005 survey effort, due to the nearly identical survey) involved the wording on a number of items on the survey. Many survey items used the words “teenagers” or “teens,” which covers a wide span of ages from early- or even pre-puberty (13) to adulthood (19). A number of respondents wrote on their surveys that they perceived some issues related to underage drinking, such as alcohol advertising, differently depending on what age a “teen” or “teenager” was. Finally, the response rate to the survey, at approximately 17%, may seem quite low. However, as Krosnick (1999) revealed in his review of survey research, the accuracy of information from mail surveys with relatively low response rates may be greater than the accuracy of information from telephone surveys with response rates three times higher (Visser, Krosnick, Marquette, & Curtin [1996] offer an excellent, concrete example of this).

Adults Perceptions of Underage Drinking

There is a plethora of evidence in the national literature that underage drinking is a serious public health problem in the United States (e.g., Hingson, 2009; Miller, Naimi, Brewer, & Jones, 2007); the economic costs of underage drinking in the United States have been reported to be as high as \$62 billion annually (Miller, Levy, Spicer, & Taylor, 2006). State level data reveals that Idaho is no exception (Idaho State Department of Education [ISDE], 2009). The results of the present study reveal that adult Idahoans are indeed concerned about underage drinking. They believe that it is very prevalent; in fact, they perceive it to be more prevalent than it actually is (whereas the respondents estimated, on average, that 45% of American teenagers drink alcohol at least several times a week, results from the 2009 Idaho Youth Risk Behavior Survey show that only 34% of Idaho teens reported drinking alcohol at least once in the previous 30 days; ISDE, 2009). With the exception of in conjunction with religious ceremonies, the respondents were strongly opposed to youth having access to alcohol in every situation, and they were also strongly opposed to lowering the legal drinking age to a level that would allow 18 year olds to drink alcohol. Taken together, these results reveal that Idaho adults believe underage drinking to be a problem, are concerned about it, and support restricting youth access to alcohol. Although no item directly asked the respondents whether they believe advertising of alcoholic beverages makes teenagers more likely to drink, they certainly seemed to believe this as evidenced by their support for restricting alcohol advertising in a variety of ways (support was particularly strong for banning the use of cartoons or youth-oriented images in alcohol advertising). They were also supportive of laws and efforts to discourage adults from providing alcohol to youth. Taken together, these findings provide evidence for policymakers that Idaho adults are supportive of further efforts to combat underage drinking in Idaho.

Differences in Perceptions

Although it is most important to understand how Idaho adults feel, in aggregate, about issues related to underage drinking, it is also important to understand whether certain groups of people have stronger or weaker attitudes against underage drinking than others. As noted throughout this report, statistically significant differences in perceptions were found as a function of a variety of demographic characteristics. In this concluding section, these will be summarized and their implications discussed.

The demographic variable that yielded the greatest number of statistically significant differences was gender. Women perceived teenage drinking to be more prevalent than men, and they also were more concerned about it. Women were more supportive of restricting access to alcohol than men, and they also were more supportive of enforcement efforts and punishment for adults who provide alcohol to youth. The differences in perceptions between men and women were perhaps most stark with respect to alcohol advertising; women were significantly more supportive of restricting alcohol advertising in all five circumstances presented (these findings are consistent with those reported in similar studies; e.g., Richter, Vaughn, & Foster, 2004). That women had stronger attitudes against underage drinking has important implications. For example, to increase support for efforts to reduce underage drinking, efforts to specifically target men with information about the hazards and costs of underage drinking would seem warranted. Also, changes in laws to prevent underage drinking would be best directed to women, as they would likely be more receptive to such changes.

The demographic variable that accounted for the second greatest number of statistically significant differences was, interestingly, education level. Contrary to what some might intuitively expect (and what some research has shown; e.g., Van Hoof, Gosselt, & de Jong, 2010; Visser et al., 1996), people with higher levels of education (particularly those with four-year college degrees and graduate degrees) had more lenient attitudes about underage drinking than those with lower levels of education (particularly those with a high school education). Those with lower levels of education believed teenage drinking was more common than those with higher levels of education, and they were more likely to oppose youth access to alcohol in several different types of situations. They also showed stronger endorsement for penalties for those who provide alcohol to minors, and punishments for minors who drink. Consumption patterns also differed as a function of education level. Those with the highest level of education—a graduate degree—reported drinking alcohol more often than those with a high school education or some college (the literature is inconsistent about the relationship between socioeconomic status variables, such as education levels, and alcohol consumption; e.g., van Oers, Bongers, van de Goor, & Garretsen, 1999). This likely influenced the overall results of the study—as individuals with both a four-year degree and a graduate degree were both overrepresented among those who completed a survey (Lumina Foundation, 2010). In any case, based on the findings in this study, it seems that information about the hazards and costs of underage drinking should be directed primarily toward adults with higher levels of education.

Perhaps not surprisingly, whether or not the respondents had children under the age of 18 living with them in the home had a significant impact on the results of some items on the survey. The nature of the results was somewhat unexpected, however. Those with minor children in the home

believed that a lower percentage of American teenagers drink alcohol at least several times a week, for example. This perception could reflect a better knowledge of the actual prevalence of underage drinking (as determined by the 2009 Youth Risk Behavior Survey; ISDE, 2009), or it could suggest, contrary to intuition, that people with minor children in the home perceive underage drinking to be less of a problem than those without minor children in the home. Respondents with minor children in the home also, somewhat surprisingly, were less supportive of restrictions on the advertising of alcoholic beverages than those without minor children in the home. Why people with minor children in the home were less supportive of advertising restrictions is an interesting question. Perhaps they believe they already restrict their minor children's exposure to alcohol-related messages. Perhaps they do not believe that alcohol advertising affects their minor children in any meaningful way. Whatever the reason, it seems that messages on the effectiveness of alcohol advertising restrictions would be well targeted to Idaho adults with minor children in their homes.

One set of contrasts that was considered particularly valuable in the current research effort was between the responses to the 2005 survey and the 2011 survey. As mentioned earlier in this report, there have been substantial efforts between 2005 and 2011 to call attention to underage drinking and the problems caused by it. These efforts have included the distribution of educational materials showing the negative impacts of alcohol on the development of the adolescent brain, and the development of a website (betheparent.org) designed to help adults reduce the likelihood of their minor children consuming alcohol. Comparing the survey responses from 2005 to those from 2011 was considered one way to measure the success of the efforts to call attention to underage drinking and its costs. It was surmised that if the researchers found respondents in 2011 to have stronger attitudes against underage drinking than respondents in 2005, it would be possible that these changed attitudes were due to the anti-underage drinking efforts.

As noted throughout this report, there were a number of statistically significant differences in responses to items as a function of survey year (i.e., whether the survey was completed by telephone in 2005 or by mail in 2011). Surprisingly, the differences showed that respondents in 2005 generally reported stronger attitudes against underage drinking than those in 2011. The respondents in 2005 reported being more concerned about teenage drinking, for example, than respondents in 2011. The respondents in 2005 were more strongly opposed to youth having access to alcohol in several situations than respondents in 2011, and they were also more supportive of underage drinking enforcement efforts and penalties for adults who provide alcohol to youth (contrarily, respondents in 2005 were more likely than those in 2011 to agree with the notion that "kids make mistakes, so punishment for teenage drinking shouldn't be too severe"). Interestingly, respondents in 2011 reported drinking alcoholic beverages on more days during an average week than respondents in 2005, and also reported drinking a greater number of alcoholic beverages during an average week.

It is somewhat difficult to interpret the results showing differences between responses in 2005 and 2011, which, as noted above, generally showed respondents in 2005 having stronger attitudes against underage drinking than those in 2011. It may seem tempting, on the basis of the data, to simply conclude that the increased efforts to call attention to underage drinking and its associated hazards have not had an impact on adults perceptions of underage drinking—or

perhaps have made adults have more lenient attitudes about underage drinking. As researchers, we suspect that such a conclusion is unwarranted, however, for several reasons. First, simply by nature of the design of the study (a random sampling of Idaho households), we do not know whether the respondents in 2011 had been exposed to any of the educational materials developed since 2005 that focused on underage drinking (judging by the fact that only eight respondents out of 767 reported having visited the *betheparent.org* website, it is likely that most were not exposed to the informational messages opposing underage drinking). Second, and perhaps more importantly, it is likely that the respondents were simply more honest and forthcoming in their responses to the 2011 survey than the respondents were in the 2005—primarily because mail surveys offer a much higher level of anonymity than telephone surveys. There is a good deal of descriptive literature on conducting survey research that suggests people tend to be considerably more honest in their responses to surveys when anonymity is higher (e.g., Fuller, 1974; Tourangeau & Yan, 2007; Turner, Lessler, & Devore, 1992). This is because, when people know that their responses can be tied directly to them, and when they worry that they might be asked to explain why they responded in a certain way (for example, why they believe it is acceptable for youth to have access in a specific type of situation) they tend to respond in ways they believe are socially desirable (Nederhof, 1985). This tendency to respond in a socially desirable way thus inhibits honest responding in certain types of survey research. It is particularly a problem in personal interviews (because the respondent is literally facing the surveyor and therefore intimately “known” to him or her), but is also a problem in telephone surveying, when the surveyor can respond directly to the respondent (and also knows who the respondent is, or at least what his or her phone number is). Social desirability bias, on the other hand, is almost never a problem in mail survey research, especially when surveys are mailed back in postage-paid self-addressed envelopes (as in the current study), as respondents do not have to worry about their identity being known (there is not even a return address that traces the survey as coming from their residence)(de Leeuw, 1992). In short, it is possible—even probable—that the reason respondents in 2011 reported weaker attitudes against underage drinking than respondents in 2005 was simply because they felt more able to respond honestly, without fear of being judged or other repercussions. Therefore, because the method of responding in 2011 was more anonymous (i.e., “safer” and more free of social desirability bias), it is likely that the true perspectives of adult Idahoans on issues related to underage drinking were captured in 2011 rather than in 2005.

The final set of secondary analyses did not compare differences between groups of people in the traditional sense, but rather explored possible relationships between respondents’ own alcohol consumption patterns and their perspectives on issues related to underage drinking. It was found, repeatedly, that statistically significant correlations between consumption patterns and perspectives exist (this is also found in the broader literature on perceptions of issues related to underage drinking; Richter et al., 2004; Van Hoof et al., 2010). It was found, for example, that as respondents’ level of self-reported drinking increased, their level of concern about underage drinking decreased. As respondents’ level of drinking increased, the more supportive they were about lowering the drinking age from 21 years of age to 18. Interestingly, those who reported drinking more also seemed to perceive underage drinking to be less of a problem; as level of self-reported drinking increased, the percentage of American teenagers believed to drink at least several times a week decreased. Some of the starkest findings regarding the relationship between self-reported drinking and perceptions of issues related to underage drinking were found in

response to items on the youth access subscale. In almost every situation presented, higher levels of self-reported drinking were associated with less opposition to youth having access to alcohol. Higher levels of self-reported drinking were also related to lower levels of support for underage drinking enforcement and penalties for adults who provide alcohol to minors. Similarly, higher levels of self-reported drinking were associated with lower levels of support for advertising restrictions on alcoholic beverages in every situation presented. In short, respondents who reported consuming greater amounts of alcohol perceived underage drinking to be less of a problem than those who reported consuming lower amounts of alcohol, and they were more opposed to reducing youth access to alcohol and to restricting alcohol advertisements. These results have important implications. Although it is difficult to target those who are greater consumers of alcohol than others, it may be possible in certain respects. For example, establishments that serve alcohol to consumers (such as bars or liquor stores) might be persuaded to hang posters describing the destructive effects of alcohol on the adolescent brain. Companies that produce alcoholic beverages might be persuaded to post on packaging (e.g., the cardboard boxes containing cases of beer) messages on the destructiveness of alcohol on young people. Targeting people who may consume greater amounts of alcohol with messages intended to instill stronger attitudes against underage drinking may be an effective way to promote change in this particular population.

In closing, there is no question that, overall, adult Idahoans are concerned about underage drinking and are supportive of reducing its prevalence through a variety of mechanisms, including restricting youth access to alcohol, restricting alcohol advertising (especially that seemingly targeting youth), and providing for penalties for youth who drink alcohol and those adults who provide alcohol to them. Levels of support seem to vary somewhat by demographic group, however, no group was supportive of lowering the drinking age or otherwise allowing youth greater access to alcohol. Given the investments Idaho is making in disseminating information on the destructive effects of underage drinking, further periodic research on adults' perceptions of underage drinking, using the improved methodology employed in the 2011 study, should be conducted to determine whether these investments are achieving desired results.

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