

Providing Alcohol for Underage Youth: What Messages Should We Be Sending Parents?

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ABSTRACT. Objective: There have been conflicting findings in the literature concerning the risks to adolescents when parents provide them with alcohol. Studies have examined various ways in which parents directly affect adolescent alcohol consumption through provision (e.g., parental offers, parental allowance/supervision, parental presence while drinking, and parental supply). This review synthesizes findings on the direct ways parental provision can influence a child's alcohol consumption and related problems in an effort to provide parents with science-based guidance. We describe potential mechanisms of the relationship between these parental influences and adolescent problems, suggest future directions for research, and discuss implications for parents. **Method:** Twenty-two studies (a mix of cross-sectional and longitudinal) that empirically examined the association between parental provision

and adolescent drinking outcomes were reviewed. **Results:** Parental provision was generally associated with increased adolescent alcohol use and, in some instances, increased heavy episodic drinking as well as higher rates of alcohol-related problems. Data in support of the view that parental provision serves as a protective factor in the face of other risk factors were equivocal. **Conclusions:** The nature and extent of the risks associated with parental provision, and the potential mechanisms underlying this association, are complex issues. Although more rigorous studies with longitudinal designs are needed, parents should be aware of potential risks associated with providing adolescents with alcohol and a place to drink. It is recommended that parents discourage drinking until adolescents reach legal age. (*J. Stud. Alcohol Drugs*, 75, 590–605, 2014)

ADOLESCENT ALCOHOL USE is a health risk associated with alcohol poisoning, high-risk sexual behavior, and accidental injury (Hingson and Zha, 2009; Hingson et al., 2000, 2003, 2009; Stueve and O'Donnell, 2005). In the United States, drinking begins early in life, and the proportion of adolescents who drink increases respectively with age (Substance Abuse and Mental Health Services Administration [SAMHSA], 2013). Early onset of alcohol use is associated with a greater likelihood of alcohol use disorder (AUD) during adolescence and later in life (Dawson et al., 2008; Grant and Dawson, 1997; Hingson and Zha, 2009; Hingson et al., 2003, 2006; Winters and Lee, 2008). Because of the significant prevalence and serious nature of adolescent alcohol use, it is crucial to identify risk factors for drinking that can be targeted and addressed through prevention and early intervention strategies. One important risk factor to consider during the adolescent developmental period is alcohol availability and access.

The vast majority of underage drinkers do not pay for the alcohol they drink and usually obtain it from social sources, such as an unrelated person of legal age or older (SAMHSA, 2013). Obtaining alcohol from a family member or from the home is also a supply source for younger adolescents (Harrison et al., 2000; Hearst et al., 2007). The American Medical Association (2005) conducted one survey on how underage youth obtain alcohol and one survey on parental opinions and behaviors about supplying alcohol to their underage children. In the survey of 13–18 year olds, one third of adolescents said it was easy to acquire alcohol from their consenting parents, and 25% had attended a party where parents consented to let adolescents drink. In the survey of parents of 12–20 year olds, 25% of parents permitted the children to drink while under the parents' supervision; 8% of parents allowed their children's friends to drink while under the parents' supervision. Parents are therefore an important target for strategies to reduce youths' access to alcohol.

Parents influence their child's risk for alcohol use in direct and indirect ways. Indirectly, parents can influence child behavior by failing to monitor activities while their child still lives at home, having permissive attitudes regarding underage drinking, expressing direct approval of underage drinking, or simply by providing unguarded access to alcohol at home (Abar et al., 2009; Arria et al., 2008; Boyle and Boekeloo, 2006; Kaynak et al., 2013; Kypri et al., 2007; Swahn and

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Hammig, 2000). Directly, parents can offer and supply alcohol to their child (e.g., offer sips and tastes at dinner or at a special or religious occasion, offer to purchase alcohol, supply alcohol for an adolescent party) or allow their child to drink in the home (e.g., allow children to drink in the home either supervised or unsupervised). Research has consistently shown that indirect parental influences (e.g., permissiveness of drinking) are associated with increased drinking, heavy episodic drinking, and negative alcohol-related consequences (Abar and Turrissi, 2008; Abar et al., 2009; Walls et al., 2009; Wood et al., 2004). Parents imposing strict rules related to adolescent alcohol use is overwhelmingly associated with less drinking and fewer alcohol-related risky behaviors (Mares et al., 2012; Van der Vorst et al., 2006, 2007). What is less understood is how parental actions can directly influence adolescent drinking outcomes.

Providing alcohol directly to adolescents, also known as “parental provision,” is a direct way parents can influence their child’s drinking. Providing adolescents with a place to drink (e.g., in the home, at a family gathering), and at times drinking with them, also falls under the domain of parental provision. Some parents believe they can “socialize” their children by providing them with alcohol and a “safe place” to drink (Donovan, 2007; Jackson et al., 2012), or they think that if they are present while their child drinks (e.g., at a family meal or special occasion), they can teach their child to drink safely (Graham et al., 2006). Parents also tend to be more concerned with short-term consequences (e.g., car accidents) as opposed to long-term outcomes (e.g., impaired development) (Graham et al., 2006). A study of 1,050 pairs of mothers and elementary-aged children (Jackson et al., 2012) found that between 15% and 40% of mothers believed that allowing their children to sip alcohol can be protective in the future (e.g., making children less likely to drink as adolescents, more likely to refuse peer pressure). Despite these beliefs, there is little research evidence to support the notion that it is even possible to “teach” children to drink alcohol responsibly. The purpose of this article is to examine the empirical literature on the current state of knowledge regarding the associations between parental provision and their underage child’s alcohol use and alcohol-related problems. Potential mechanisms of risk, implications for parents, and future directions for research are also discussed.

Method

Articles examining the association between parental provision and adolescent drinking outcomes were located by searching PsycINFO and PubMed databases using a variety of terms related to parental provision (e.g., *provision, supply, allowance, supervision*) and alcohol use (e.g., *alcohol, alcohol use, heavy episodic drinking, underage drinking*). Only English-language, peer-reviewed articles published in academic journals through December 2012 were included.

Studies had to include the direct supply of alcohol from parents to adolescents or the allowance of alcohol use in the family home. Studies that measured availability in the home, permissiveness, intentions, and beliefs regarding parental supply were not included in the review unless the study also measured the direct supply of alcohol. No restriction was made on year of publication or whether the research data were collected from the parent, youth, or both. Longitudinal and cross-sectional studies were included; qualitative studies were excluded. The searches yielded 140 articles with only nine longitudinal or cross-sectional studies that met inclusion criteria. Reference lists of the relevant articles were searched, yielding another 13 quantitative studies for a total of 22 studies.

Results

After examining the literature, we identified five ways in which parents directly influenced adolescent alcohol use: (a) parental offers of alcohol, (b) parental allowance/supervision of alcohol use, (c) parental supply/source of alcohol, (d) alcohol use context, and (e) hosting a party where alcohol was served (i.e., “social hosting”) or supplying alcohol for drinking with peers (i.e., “furnishing”). The results are organized below according to each type of parental influence. Studies that measured more than one type of parental influence are reported under multiple sections. The 22 studies reviewed are listed alphabetically and described in detail in Table 1.

Parental offers of alcohol

One of the earliest interactions between parents and children regarding alcohol consumption involves offering the child a small amount of alcohol—a “sip or taste.” Two studies investigated the possible risks associated with this type of parental behavior. First, an early cross-sectional study by Jackson (1997) of fourth and sixth graders in the United States observed that parental offers were associated with participants initiating alcohol use on their own. The second more recent study was conducted in Sweden and prospectively studied 13-year-olds at baseline and 2 years later (Danielsson et al., 2011). In that study, being offered alcohol by a parent was associated with a higher likelihood of subsequent heavy episodic drinking among girls but not among boys at follow-up. The analyses adjusted for several other suspected risk and protective factors for adolescent alcohol consumption, including bullying, truancy, peer influences, parental and peer attachment, and parental monitoring.

Parental allowance/supervision of alcohol use

Beyond simply offering a child a sip or taste of alcohol, parents can allow underage drinking in their own home. Furthermore, parents can set rules regarding whether they need

TABLE 1. Design, methodology, and summary of findings from cross-sectional and longitudinal studies on the association between various aspects of parental provision and adolescent alcohol outcomes

Author(s) (Year)	Sample characteristics and design	Measures of parental provision	Dependent variable(s)	Results related to parental provision
Bellis et al. (2007)	England 15–16 years old Race/ethnicity: 87.5% White 48% male (<i>n</i> = 10,271) Cross-sectional (<i>n</i> = 9,029 after excluding youth who did not use alcohol)	Supply/source of alcohol: parents, older siblings, friends (18 or older), friends (younger than 18), adult outside shops, take/ steal from parents	Heavy episodic drinking (usually having 5+ drink/ session) Drinking in public settings Frequent drinking (usually drink 2+ days a week) Any drinking risk All drinking risks	88% of the total sample drank alcohol at least once every 6 months. Multivariate logistic regression adjusted for sex, age, SES, ethnicity, allowance; ever buying alcohol; and membership in a club, group, or team. Obtaining alcohol from parents was protective for heavy episodic (AOR = 0.82, <i>p</i> < .005), drinking in a public setting (AOR = 0.51, <i>p</i> < .001), any risks (AOR = 0.67, <i>p</i> < .001), and all risks (AOR = 0.79, <i>p</i> < .05). When considering sources other than parents: obtaining alcohol from siblings (AOR = 1.31, <i>p</i> < .005) and friends (18 and older: AOR = 1.40, <i>p</i> < .001; and younger than 18: AOR = 1.19, <i>p</i> < .01) were a risk for heavy episodic drinking. All sources except friends younger than 18 were a risk for frequent drinking. All sources except taking/stealing from parents were a risk for drinking in public settings and having any drinking risk. All sources except older siblings and taking/stealing from parents were a risk for having all drinking risks.
Bellis et al. (2009)	England 15–16 years old Race/ethnicity: not reported 48% male (<i>n</i> = 9,833) Cross-sectional (<i>n</i> = 8,263 after excluding youth who did not use alcohol)	Supply/source of alcohol: buy own, parents provide, from adults outside shop	Drinking in public settings Violence when drunk Alcohol-related regretted sex Forget things after drinking	84% of the total sample drank alcohol during the past 6 months. Logistic regression analyses controlled for sources of alcohol, types consumed, drinking patterns, and individual demographics. Receiving alcohol from parents was associated with fewer negative consequences than receiving alcohol from other sources. Having parents purchase alcohol was associated with a lower probability of drinking in public places (AOR = 0.51, <i>p</i> < .001), violence when drunk (AOR = 0.57, <i>p</i> < .001), alcohol-related sex (AOR = 0.75, <i>p</i> < .001), and forgetting things after drinking (AOR = 0.75, <i>p</i> < .001) than was obtaining from other sources.
Danielsson et al. (2011)	Sweden 13 years old Race/ethnicity: not reported 47% male (<i>n</i> = 1,222) Longitudinal; 2-year follow-up	Parental offers: "Have your parents ever offered you spirits/wine/beer/cider?"	Heavy episodic drinking (5+ drinks) on the same occasion	Heavy episodic drinking tripled by T2, with 46% of boys and 39% of girls drinking heavily. When all risk and protective factors were entered simultaneously in a multivariate logistic regression model, parental offers predicted heavy episodic drinking in boys at T1 (OR = 3.75, <i>p</i> < .05) but not T2 and in girls at T1 (OR = 3.24, <i>p</i> < .05) and T2 (OR = 1.80, <i>p</i> < .05).
Dent et al. (2005)	United States 16–17 years old Race/ethnicity: 85% White 50% male (<i>n</i> = 16,694 from 93 communities) Cross-sectional (<i>n</i> = 3,318 after excluding youth who did not use alcohol during the past 30 days)	Supply/source of alcohol: "During the past 30 days, how many times did you get alcohol (beer, wine, or hard liquor) from each of the following sources: grocery, 7–11, drug store, gas station, friend (≥21), friend (<21), home (with- out permission), parent."	Alcohol frequency during the past 30 days Heavy episodic drinking (5+ drinks in a row) during the past 30 days Drinking and driving/riding during the past 30 days Alcohol use at school during the past 30 days	20% of the total sample drank during the past 30 days. Multilevel modeling examined individual and community-level access measures to adolescent alcohol use. Obtaining alcohol from friends age 21 or older was the largest contributor to drinking outcomes for all but use at school, followed by friends younger than 21. Obtaining alcohol from parents was positively associated with alcohol frequency (coefficient = .07, <i>p</i> < .01), but negatively to heavy episodic drinking (coefficient = -.05, <i>p</i> < .01) and driving/riding while drinking (coefficient = -.08, <i>p</i> < .01). Taking alcohol from home without permission was associated with frequency of drinking at school (coefficient = .11, <i>p</i> < .01). Obtaining from commercial sources independently contributed significantly and positively to each of the alcohol use outcomes.
Dietze and Livingston (2010)	Australia 16–17 years old Race/ethnicity: 97% nonindigenous 51% male (<i>n</i> = 2,644) Cross-sectional; excluded youth who did not use alcohol during the past 12 months	Supply/source of alcohol: parents only, parents plus other sources, other sources only	Heavy episodic drinking (4+ drinks for females, 6+ drinks for males on one drinking occasion at least weekly during the past 12 months) Alcohol-related problems during the past 12 months	20% of the total sample reported risky single-occasion drinking and 34% had at least one alcohol-related problem during the past 12 months. Multivariate logistic regression controlled for age, gender, language at home, indigenous status, school/work status, single-parent home, parental allowance, family arguments, and age at first drink. With parents only used as a reference group, adolescents who obtained alcohol from their parents plus other sources and adolescents who obtained alcohol from other sources only were at greater risk for heavy episodic drinking (OR = 2.53 and OR = 2.16, respectively) and alcohol-related problem behaviors (OR = 2.27 and OR = 2.27, respectively).

table continued

TABLE 1. *Continued*

Author(s) (Year)	Sample characteristics and design	Measures of parental provision	Dependent variable(s)	Results related to parental provision
Donnermeyer and Park (1995)	United States 7th, 11th grade Race/ethnicity: not reported 49% male (<i>n</i> = 456) Cross-sectional (<i>n</i> = 256 after excluding youth who did not use alcohol)	Alcohol use context: "Where do you usually drink?" At home with parents or guardians, at home without parents or guardians, while driving, at a friend's house or apartment, at school, before a school event, walking on the street.	Alcohol frequency during the past 3 months	58% of the total sample used alcohol. Stepwise multiple regression controlled for age at first drink, gender, age, family structure, time with family, time with friends, and participation in church activities. Frequency of alcohol use was negatively associated with drinking at home with parents ($b = -0.21, p < .001$) and drinking at school ($b = -0.11, p < .05$) and was positively associated with drinking while driving ($b = 0.24, p < .001$), drinking before school events ($b = 0.19, p < .001$), and drinking while walking on the street ($b = 0.13, p < .05$). Drinking at home (no parents or guardians) and drinking at a friend's house or apartment were not associated with outcomes.
Foley et al. (2004)	United States 16-20 years old Race/ethnicity: 89% White, 6% Black, 5% Latino 51% male (<i>n</i> = 6,245) Cross-sectional (<i>n</i> = 4,195-4,335 depending on outcome after excluding youth who did not use alcohol or who only used alcohol with parents or adult family members)	Supply/source of alcohol: "The last time you drank any alcohol, how did you get the alcohol?" Alcohol use context: "The last time you drank any alcohol, who were you with?" Social hosting/furnishing: "During the past year, have your parents or a friend's parents provided alcoholic beverages you drank at a party?"	Alcohol quantity (last use) Alcohol use during the past 30 days Heavy episodic drinking (5+ drinks in a row) during the past 2 weeks	72% of the total sample were lifetime alcohol users, 54% used during the past 30 days, and 23% were heavy episodic drinkers. Linear and logistic regressions controlled for age, gender, family structure, and religious attendance. When compared with getting alcohol from a friend or other supplier, youth who received alcohol from their parents or an adult relative consumed fewer drinks ($b = -0.15, p = .02$) and were less likely to engage in heavy episodic drinking (OR = 0.52, $p < .05$). Youth who drank with their parents on their last drinking occasion consumed fewer drinks ($b = -0.38, p < .001$), were less likely to drink during the past 30 days (OR = 0.56, $p < .05$), and were less likely to engage in heavy episodic drinking (OR = 0.36, $p < .05$) than youth who did not report drinking with their parents on their last drinking occasion. Youth whose parents or friend's parents hosted a drinking party for them consumed more drinks ($b = 0.19, p < .001$), were more likely to drink during the past 30 days (OR = 2.12, $p < .05$), and were more likely to engage in heavy episodic drinking (OR = 2.00, $p < .05$) than were youth whose parents or friend's parents did not host a drinking party.

table continued

TABLE 1. Continued

Author(s) (Year)	Sample characteristics and design	Measures of parental provision	Dependent variable(s)	Results related to parental provision
Gilligan et al. (2012)	Australia 13–17 years old Race/ethnicity: 95.7% Australian 47% male (<i>n</i> = 530) Cross-sectional	Supply/source of alcohol: where adolescent mainly obtains alcohol (e.g., friends, parent, older sibling, bottle shop, friend's parents, pub/bar/cafe, another adult, stranger, stolen, other). Parental allowance/supervision of alcohol use: whether a parent had supplied alcohol (under parental supervision, under other parental supervision, under no supervision) AND how much alcohol adolescent permitted to consume at home ("do not know rules, as much as I like, do not drink alcohol and/or drink at home, not allowed to drink alcohol, small/moderate") AND how often adolescent is permitted to drink at home ("as often as I like, do not drink alcohol and/or drink at home, do not know rules, never allowed to drink alcohol, sometimes/special occasions").	Drinking status: nondrinkers and moderate drinkers (consumed at least a full glass) vs. risky drinkers (consumed more than four drinks on one or more occasions during the past month)	93% had tried at least a sip of alcohol, 66% consumed at least a full glass, and 40% consumed more than four drinks on one or more occasions in the last month. Friends and parents were the main sources of alcohol among students who were risky drinkers. After school year and gender were controlled for and clustering was adjusted for, logistic regression showed that parental supply for drinking under other supervision (OR = 3.9, <i>p</i> = .004) and with no supervision (OR = 3.9, <i>p</i> = .007), the number of close friends believed to have consumed alcohol during the past month (6–10 friends: OR = 6.2, >10 friends: OR = 15.0, both <i>p</i> < .0001), and Aboriginal or Torres Strait Islander status (OR = 6.2, <i>p</i> = .02) were all significantly associated with risky drinking.
Jackson (1997)	United States 4th, 6th grade Race/ethnicity: 83% White 49% male (<i>n</i> = 1,272) Cross-sectional	Parental offers: Whether a parent had ever offered child a sip of beer, wine, or other drink with alcohol. Parental allowance/supervision of alcohol use: Whether it is okay for child to have a drink with alcohol while at home with parents.	Abstainers ("never" "none") vs. initiators ("most or all of one can of beer, glass of wine, or other drink with alcohol" in lifetime) vs. experimenters ("2–4 drinks with alcohol" to "20 or more drinks with alcohol" in lifetime)	34% had tried alcohol. Hierarchical discriminant analysis controlled for age, gender, and race. Parental offers (<i>r</i> = .71, <i>p</i> < .0001) and parental allowance of use at home (<i>r</i> = .54, <i>p</i> < .0001) significantly predicted initiation. Parental offers (<i>r</i> = .43, <i>p</i> < .0001) and parental allowance of use at home (<i>r</i> = .42, <i>p</i> < .0001) significantly predicted experimentation, although use by best friends was the strongest predictor (<i>r</i> = .65, <i>p</i> < .0001).

table continued

TABLE 1. Continued

Author(s) (Year)	Sample characteristics and design	Measures of parental provision	Dependent variable(s)	Results related to parental provision
Jackson et al. (1999)	United States 5th grade Race/ethnicity: 86% White 50% male (n = 488) Longitudinal; 2-year follow-up	Parental allowance/supervision of alcohol use: "Have your parents let you have your own drink of beer, wine, or other drink with alcohol at home?" AND "Is it a rule at your house that you are not allowed to have drinks with alcohol?" AND "Do you think your parents would know if you were drinking alcohol with your friends?" AND "How much have your parents talked to you about staying away from alcohol?"	Alcohol use during the past 30 days	19% used alcohol at follow-up. The full regression model included covariates (sex, race, age, single-parent status, prior use, parental modeling) and predictors (alcohol-specific socialization variables, parental responsiveness, parental demandingness). Youth who were allowed to have a drink of their own at home were more likely to use alcohol at follow-up (OR = 2.13, $p < .01$). Youth with no parental monitoring of alcohol use were also more likely to use alcohol at follow-up (OR = 2.62, $p < .01$).
Kelly et al. (2012)	Australia 14–17 years old Race/ethnicity: 92% Australian 46% male (n = 608) Cross-sectional; excluded youth who did not use alcohol during the past 12 months	Supply/source of alcohol: "Who supplied you with your first full serving of alcohol and/or first glass of alcohol you consumed?" AND "Where do you usually obtain your alcohol now?"	Alcohol use frequency during the past year Heavy episodic drinking (4+ drinks consumed one or more days a month) Responsible drinking	Among adolescents who reported heavy episodic drinking, 28.6% obtained their first alcoholic drink from a parent, 26.3% currently obtained alcohol from a parent. Multivariate logistic and multiple regression models controlled for age, gender, SES, location, age at drinking onset, and peer alcohol use. Using friend or partner as the reference group, obtaining first alcoholic drink from a parent was negatively associated with heavy episodic drinking (OR = 0.54, $p < .05$). Responsible drinking was found to mediate the relation between parental supply of first drink and heavy episodic drinking. Currently obtaining alcohol from parents was negatively associated with heavy episodic drinking (OR = 0.48, $p < .01$).
Komro et al. (2007)	United States 6th grade Race/ethnicity: 44% African American, 39% Hispanic, 17% White 48% male (n = 1,388 adolescent and parents) Longitudinal; 2-year follow-up	Parental allowance/supervision of alcohol use: "Is your 6th grader ever allowed to drink alcoholic beverages in your home?" (parental report) "If you have ever had an alcoholic drink, think back to the last time you drank. How did you obtain the alcohol?" (youth report)	Alcohol use during the past year, month, and week Heavy episodic drinking (5+ drinks in a row) during the past 2 weeks Lifetime drunkenness Intention to drink next month or in high school	All alcohol use outcomes increased from T1 to T2. Generalized linear mixed-model regressions controlled for race/ethnicity, age, gender, family composition, parent-child communication, family alcohol discussions, peer alcohol use, and parental monitoring. Youth who were allowed to drink at home at baseline had an increased trajectory of past-year alcohol use (OR = 1.55, $p < .05$), drunkenness (OR = 2.39, $p < .001$), heavy episodic drinking (OR = 1.93, $p < .05$), and intention to drink next month (OR = 2.09, $p < .05$). Youth who received alcohol from a parent on last drinking occasion had an increased trajectory on all outcomes: alcohol use (year: OR = 2.57, $p < .001$; month: OR = 2.32, $p < .001$; week: OR = 2.69; $p < .001$), drunkenness (OR = 2.29, $p < .001$), heavy episodic drinking (OR = 2.04, $p < .01$), drink if peer offered (OR = 1.99, $p < .01$), and intention to drink next month (OR = 1.92, $p < .01$) and in high school (OR = 2.70, $p < .001$).

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TABLE 1. Continued

Author(s) (Year)	Sample characteristics and design	Measures of parental provision	Dependent variable(s)	Results related to parental provision
Livingston et al. (2010)	United States 18 years old Race/ethnicity: 91% White 100% female (<i>n</i> = 449) Longitudinal; 1-year follow-up	Parental allowance/supervision of alcohol use: "Do your parents (you) allow you (your daughter) to drink alcoholic beverages at family meals?" Social hosting/furnishing: "...in your home with your (her) friends?" (youth and parental report)	Alcohol use during the past 90 days Alcohol use frequency on weekends Heavy episodic drinking (averaged frequency 4+ drinks in a sitting and frequency of drinking to intoxication)	At baseline, weekend drinking and heavy episodic drinking for those permitted to drink at home with meals (DWM; $M = 3.51$ and $M = 0.94$, respectively) were not statistically different from those not permitted to drink (ND; $M = 2.52$ and $M = 0.71$, respectively) and were significantly lower than those permitted to drink with friends (DWF; $M = 6.56$ and $M = 1.77$, respectively). Use of repeated-measures analysis of variance showed a main effect of time with all groups increasing frequency of heavy episodic drinking as they transitioned from high school to college, $F(1, 442) = 29.03, p < .001$ ($\eta^2 = .06$). Weekend drinking for DWM ($M = 5.66$) was not significantly different from DWF ($M = 6.47$), but both were significantly higher than ND ($M = 3.91$). DWM ($M = 1.42$) had significantly higher rates of heavy episodic drinking than ND ($M = 1.06$). DWF continued to have significantly higher rates of heavy episodic drinking than the other two groups ($M = 1.85$). The interaction between time and permissiveness context was significant, $F(2, 442) = 4.25, p < .05$ ($\eta^2 = .02$), indicating that heavy episodic drinking increased significantly over the transition from high school to college in DWM and ND but not DWF (because levels were already high and stayed high). Mothers in all groups underestimated their daughters' heavy episodic drinking. All mothers predicted their daughters' heavy episodic drinking would increase, $F(1, 183) = 52.49, p < .001$ ($\eta^2 = .22$), but mothers of DWM believed their daughters' frequency of heavy episodic drinking remained low when this group increased heavy episodic drinking significantly. Path analysis revealed that the association between parental allowance of drinking and college heavy drinking was mediated via perceptions of parental alcohol approval.
Lundborg (2002)	Sweden 12–18 years old Race/ethnicity: not reported 54% male (<i>n</i> = 833) Cross-sectional; analyses excluded youth who did not use alcohol during the past year	Supply/source of alcohol: "whether parents were willing to supply alcohol"	Alcohol use Alcohol frequency and quantity in past 30 days Note: Separate analyses were conducted for different types of alcohol (beer II, beer III, wine, distilled spirits, illicit alcohol). Heavy episodic drinking (defined as feeling drunk every or almost every time he/she drinks)	82% drank alcohol during the past month and 54% engaged in heavy episodic drinking. Econometric analyses (probit models for drinking and heavy episodic drinking, negative binomial models for frequency of drinking and Tobit model for intensity of drinking) examined variables including demographics, alcohol use, other drug use, activities, and parental variables. Having parents willing to supply alcohol increased probabilities of participation in drinking (total marginal effect = 0.11, $p < .05$) in addition to increasing the frequency of drinking beer (0.42, $p < .05$), wine (0.27, $p < .05$), and distilled spirits (0.32, $p < .05$). Having parents willing to supply alcohol also increased the intensity of drinking wine (0.01, $p < .05$), distilled spirits (0.03, $p < .05$), and illicit alcohol (0.03, $p < .05$).

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TABLE 1. Continued

Author(s) (Year)	Sample characteristics and design	Measures of parental provision	Dependent variable(s)	Results related to parental provision
Lundborg (2007)	Sweden 12–18 years old Race/ethnicity: not reported 51% male (<i>n</i> = 2,243) Cross-sectional; analyses of heavy episodic drinking excluded youth who did not use alcohol during the past 30 days (<i>n</i> = 1,581)	Supply/source of alcohol: “If you and some friends of yours wanted to share a six-pack of beer II/beer III/bottle of wine/half-bottle of spirits together; do you think that any of your own parents would obtain (it) for you if you asked?” Parental allowance/supervision of alcohol use: Asked whether “respondent’s parents had ever actively encouraged him/her to drink together with them” OR “respondent had ever drunk together with his/her parents.”	Alcohol use during the past year Note: Separate analyses were conducted for different types of alcohol (beer II, beer III, wine, distilled spirits). Heavy episodic drinking during the past month	71% of total sample drank alcohol during the past year. A bivariate probit model included gender, grade, other drug use, truancy, perceived risk of alcohol use, etc. Parents’ willingness to supply alcohol was correlated positively with the probability that the adolescent would engage in heavy episodic drinking of the same beverage (marginal effects ranged from 0.09 to 0.16 across beverages measured, all <i>p</i> s < .05). No effects of consuming with parents were found on heavy episodic drinking, although both variables were significantly and positively correlated with the probability of using alcohol during the past year. No substitution effects were found (i.e., willingness to supply a certain type of alcohol showed no statistically significant effect on the probability of heavy episodic drinking of another type of alcohol). Having parents who encouraged drinking at home was associated with an increased probability of heavy episodic drinking of beer (total marginal effect = 0.06–0.09, <i>p</i> < .05).
Mayer et al. (1998)	United States 9th grade Race/ethnicity: 92.9% White 48.8% male (<i>n</i> = 2,269) 12th grade Race/ethnicity: 94.6% White 53.3% male (<i>n</i> = 2,377) Cross-sectional; excluded youth who did not use alcohol during the past 30 days	Alcohol use context: Where adolescent did most of his/her drinking on last drinking occasion (at home, in an open field or other) AND whom adolescent was with on last drinking occasion (parents, brothers/sisters, friends, people I just met, I was by myself, other).	Heavy episodic drinking (5+ drinks in one sitting) in past 2 weeks vs. “regular/heavy” drinking (excluding heavy episodic)	40.1% of 9th graders and 54.1% of 12th graders were heavy episodic drinkers. 17.8% of 9th graders and 8.8% of 12th graders drank with their parents on last occasion. 77.3% of 9th graders and 88.4% of 12th graders drank with friends on last occasion. Multivariate logistic regression analyses included gender, adult supervision after school, number of older siblings in house, and drinking behavior. Heavy episodic drinking in the 9th and 12th grade was associated with drinking with friends and acquaintances, $F(1, 2269) = 9.01, p = .0027$, and $F(1, 1237) = 11.40, p = .0007$, respectively, rather than with parents, $F(1, 2269) = 50.91, p = .0001$, and $F(1, 2377) = 28.10, p = .0001$, respectively.
McMorris et al. (2011)	United States and Australia 7th grade United States: Race/ethnicity: 65% White 50% male Australia: Race/ethnicity: 91% Australian 50% male (<i>n</i> = 1,888) Longitudinal; 2-year follow-up	Parental allowance/supervision of alcohol use: How many times during the past year the adolescent had consumed alcohol “at dinner, or on a special occasion or holiday, with adult supervision?” OR “at parties with adult supervision?” Combined into a composite score.	Alcohol frequency during the past year Alcohol problems during the past year	Lifetime alcohol use increased over time for both schools (Australia: 59%–71%, United States: 39%–45%). 36% of Australian students experienced alcohol problems compared with 21% of American students. Two-group multiple-group path models were estimated for the full American and Australian samples and controlled for gender, age, and SES. In both schools, favorable parental attitudes toward alcohol use predicted increased adult-supervised alcohol use (United States: <i>b</i> = 0.07; Australia: <i>b</i> = 0.12, <i>p</i> < .05), which predicted increased alcohol frequency (United States: <i>b</i> = .17; Australia: <i>b</i> = 0.21, <i>p</i> < .05) and problems (United States: <i>b</i> = 0.10; Australia: <i>b</i> = 0.14, <i>p</i> < .05).

table continued

TABLE 1. Continued

Author(s) (Year)	Sample characteristics and design	Measures of parental provision	Dependent variable(s)	Results related to parental provision
Reboussin et al. 2012	United States 14–20 years old Race/ethnicity: 84.7% White 52.2% male (<i>n</i> = 5,017) Cross-sectional; excluded youth who did not use alcohol during the past 30 days without parental supervision	Supply/source of alcohol: “The last time you drank any alcohol, how did you get the alcohol?” Alcohol use context: “The last time you drank any alcohol, who were you with?” Social hosting/furnishing: “During the past year, have your parents or a friend’s parents provided alcoholic beverages you drank at a party?”	Drunk during the past 12 months Heavy episodic drinking (5+ drinks in a row) during the past 2 weeks Alcohol problems during the past year Drinking and driving/riding during the past 30 days	66.4% were drunk during the past 12 months, and 37.5% engaged in heavy episodic drinking. 68.0% experienced alcohol problems, and 29.8% drove drunk or rode with a drunk driver. Alternating logistic regressions were used to estimate the influence of social factors on the clustering of the alcohol-related outcomes. The multivariate model controlled for age, gender, race, parents’ education, and family structure. Drinking with parents and obtaining alcohol from parents were both associated with a decreased risk for getting drunk (OR = 0.10 and OR = 0.17, respectively), heavy episodic drinking (OR = 0.14 and OR = 0.27, respectively), alcohol problems (OR = 0.15 and OR = 0.24, respectively), and drinking and driving/riding (OR = 0.74 and OR = 0.76, respectively). Social hosting was associated with an increased risk for heavy episodic drinking (OR = 1.43), alcohol problems (OR = 1.33), and drinking and driving/riding (OR = 1.81). Drinking with friends and obtaining alcohol from friends was associated with an increased risk for all the alcohol-related outcomes (except no relation between obtaining alcohol and drinking and driving/riding). There was a greater co-occurrence of drinking but not getting drunk if they lived in a community where there was a higher concentration of youth drinking with parents.
Shortt et al. (2007)	Australia 7th grade, <i>M</i> _{age} = 12.3 years Race/ethnicity: 90% Australian 43% male (<i>n</i> = 2,128) Longitudinal; 1-year follow-up	Parental allowance/supervision of alcohol use: Rules for their adolescent’s use of alcohol in the home (no use, sips/diluted drinks under supervision, allowed a drink on special occasions, has a regular drink with/before meals). Responses were dichotomized to no use vs. all other categories. (parental report)	Lifetime alcohol use	33% of adolescents used alcohol at T1 and T2, respectively. Multivariate logistic regression adjusted for gender, age, birth country, and family structure and other predictors (family, behavioral, parents, child, alcohol use at T1) and was performed on a subset of participants who also had parental reports from baseline (<i>n</i> = 1,166). The fully adjusted model showed that adolescents whose parents allowed them to use alcohol in the home had a twofold increased risk for lifetime alcohol use at T2 (OR = 2.07, <i>p</i> < .01).
Van Der Vorst et al. (2010)	Netherlands 13–16 years old 50% male Race/ethnicity: 95% Dutch (<i>n</i> = 428) Longitudinal; 2-year follow-up	Alcohol use context: “In the previous week, how many glasses of alcoholic beverages did you consume at home on weekdays/week-end? . . . outside the home on weekdays/weekend?” Parental allowance/supervision of alcohol use: How many times adolescent drank alcohol with parent during the past month AND a five-item measure on monitoring efforts and supervision of adolescent’s alcohol use. (youth and parental report)	Alcohol frequency (inside home during previous week), and separately alcohol frequency (outside home during previous week) Alcohol problems (time-frame not specified)	Structural path analyses were completed separately for older and younger adolescents and included alcohol use inside and outside of home, problem drinking, drinking with parents, drinking with friends, and parental supervision. Older adolescents: the more the adolescent drank at home, the more they drank outside the home (T1 to T2: <i>b</i> = 0.15, <i>p</i> < .001; T2 to T3: <i>b</i> = 0.14, <i>p</i> < .001); the more alcohol they consumed outside the home, the more they drank at home (T1 to T2: <i>b</i> = 0.19, <i>p</i> < .001; T2 to T3: <i>b</i> = .19, <i>p</i> < .001). Younger adolescents: drinking at home predicted drinking outside the home 1 year later (T1 to T2: <i>b</i> = 0.23, <i>p</i> < .001; T2 to T3: <i>b</i> = 0.13, <i>p</i> < .001); drinking outside the home predicted drinking inside home only from T2 to T3 (T2 to T3: <i>b</i> = 0.20, <i>p</i> < .001). Both siblings: drinking at home and drinking outside the home predicted problem drinking at T3. There were no significant effects of parental allowance/supervision of alcohol use.

table continued

TABLE 1. Continued

Author(s) (Year)	Sample characteristics and design	Measures of parental provision	Dependent variable(s)	Results related to parental provision
Van Zundert et al. (2006)	Netherlands Regular education: 13–16 years old Race/ethnicity: 80.9% Dutch 50% male (<i>n</i> = 428) Special education: 12–17 years old Race/ethnicity: 80.9% Dutch 65.7% male (<i>n</i> = 411) Cross-sectional	Supply/source of alcohol: How often parents had beer, wine, strong distilled spirits, and mixed drinks available at home. (youth and parental report)	Alcohol frequency and quantity during the past 4 weeks	Structural equation modeling controlled for age, gender, and ethnicity and compared a regular education sample to a special education (for behavioral problems) sample of adolescents. Alcohol availability at home (as reported by the mother) was only related to higher levels of adolescent alcohol use in the special education sample ($b = 0.27, p < .05$).
Yu (2003)	United States 15–18 years old Race/ethnicity: not reported 50.8% male (<i>n</i> = 642 adolescents and parents) Cross-sectional (<i>n</i> = 447–470 after current alcohol use, frequency, and onset analyses excluding youth who never used alcohol)	Parental allowance/supervision of alcohol use: Parents were asked four questions about circumstance and frequency, in which they would allow their child to use alcohol under supervision, including on special occasions, at dinner, on weekends, or anytime at home. (youth and parental report)	Lifetime and current alcohol use Daily alcohol consumption during the past 30 days Age at onset of alcohol use	73.1% of the total sample were lifetime alcohol users, and 37.7% were current alcohol users. Ordinary least squares and logistic regressions controlled for age, gender, and parental gender. The more restrictive parents are about supervised use of alcohol at home, the less likely youth are using alcohol (OR = 0.86, $p < .05$) and the less frequently youth are using alcohol ($b = -0.12, p < .05$). Supervised use did not have a significant effect on lifetime use, daily consumption, or age at onset. Youth perception of approval was associated with lifetime alcohol use (OR = 0.62, $p < .01$; $b = 0.09, p < .01$).

Notes: For race/ethnicity, note that Australian youth tend to identify as Australian if they are not foreign born, regardless of race. Although many included studies measured additional predictors and outcomes, this review focused on parental provision and alcohol use and alcohol-related problems outcomes. If question under measure of parental provision is in quotations, it is verbatim from the study method section. Unless specified, studies used youth report for independent and dependent variables. SES = socioeconomic status; AOR = adjusted odds ratio; OR = odds ratio; T1 = Time 1; T2 = Time 2; T3 = Time 3.

to be present when underage drinking occurs. Ten studies focused on these dimensions of parental allowance/supervision and measured alcohol use and various alcohol-related outcomes. Four of the studies implied that the parent was present (Jackson, 1997; Jackson et al., 1999; Komro et al., 2007; Livingston et al., 2010); the rest specifically addressed parental supervised or unsupervised alcohol use (Gilligan et al., 2012; Lundborg, 2007; McMorris et al., 2011; Shortt et al., 2007; Van der Vorst et al., 2010; Yu, 2003). In addition to supervised use, Van der Vorst et al. (2010) also measured drinking in the home versus drinking outside of the home. Two studies measured only the adolescent point of view regarding their parent's rules about drinking at home, either supervised or unsupervised (Jackson et al., 1999; McMorris et al., 2011). Five studies measured the point of view of parents only or of both the parent and the adolescent (Komro et al., 2007; Livingston et al., 2010; Shortt et al., 2007; Van der Vorst et al., 2010; Yu, 2003).

Despite differences across studies in the measurement tools used, geographic region, or the age of the samples, all of the longitudinal studies observed that parental allowance of drinking at home was related to a higher likelihood of drinking during adolescence (Jackson et al., 1999; Komro et al., 2007; Shortt et al., 2007), heavy episodic drinking (Komro et al., 2007; Livingston et al., 2010), or the frequency of alcohol-related problems (McMorris et al., 2011; Van der Vorst et al., 2010). Livingston et al. (2010) observed discrepancies among parental perceptions of their child's heavy drinking and what their child reported. Mothers who allowed drinking at home perceived their children's frequency of heavy drinking as relatively low when, in reality, their heavy drinking increased significantly over time. Three cross-sectional studies observed somewhat similar findings using the adolescent's view on parental allowance (Gilligan et al., 2012; Jackson, 1997; Lundborg, 2007). Specifically, parental allowance was associated with increased initiation, experimentation, and heavy episodic drinking among adolescents. One cross-sectional study (Yu, 2003), using the parent's point of view on allowance, found that as levels of parental restrictiveness regarding supervised alcohol use increased, adolescent alcohol use decreased or was less likely to occur; however, there was no significant effect on lifetime use, daily consumption, or age at onset.

Parental supply/source of alcohol

In some cases, parents will supply their children with alcohol or make alcohol available in the home without addressing supervision or location of drinking. Eleven cross-sectional studies and one longitudinal study examined parental supply in the United States, Australia, Sweden, and the Netherlands. Six studies excluded nondrinkers for all analyses (Bellis et al., 2007, 2009; Dent et al., 2005; Dietze and Livingston, 2010; Kelly et al., 2012; Lundborg, 2002),

one study excluded nondrinkers in heavy episodic drinking analyses (Lundborg, 2007), and two studies further excluded youth who had only used alcohol under parental supervision (Foley et al., 2004; Reboussin et al., 2012). Two studies used both parental and youth report (Komro et al., 2007; Van Zundert et al., 2006). There was a lack of uniformity in the way parental supply was measured, ranging from listing specific alcohol sources under any circumstance to asking how often parents supplied alcohol to the adolescent in the home. Three studies asked adolescents where they obtained their alcohol the last time they drank rather than assessing frequency of obtaining alcohol from various sources (e.g., parents, friends, other adult) in a specified time frame (Foley et al., 2004; Komro et al., 2007; Reboussin et al., 2012). In three studies, obtaining alcohol from parents consistently increased the risk of participation in drinking and alcohol use frequency (Dent et al., 2005; Komro et al., 2007; Lundborg, 2002). Van Zundert et al. (2006) measured how often parents made alcohol available in the home in two populations (regular vs. special education) and found that alcohol availability was associated with higher levels of alcohol use only in the special education group.

The results were inconsistent when addressing risky drinking and risky behaviors associated with drinking. Six studies found that parental supply was associated with less heavy episodic drinking, problem drinking, or alcohol-related risky behaviors (Bellis et al., 2007, 2009; Dent et al., 2005; Foley et al., 2004; Kelly et al., 2012; Reboussin et al., 2012); whereas three studies found that parental supply was associated with increased heavy episodic drinking or intention to drink in the future (Komro et al., 2007; Lundborg, 2002, 2007). One study separated out adolescents who obtained alcohol from their parents only versus adolescents who obtained alcohol from their parents plus other sources (Dietze and Livingston, 2010). Obtaining alcohol from parents was associated with decreased odds of heavy episodic drinking when compared with obtaining alcohol from other sources. However, obtaining alcohol from parents in addition to other sources was associated with the greatest odds for heavy episodic drinking.

Alcohol use context

Even without actually providing alcohol to their child, parents can play a role by setting the environmental context in which drinking might occur. Four cross-sectional studies in the United States found that simply being present while their child is consuming alcohol (e.g., in the house, at a family gathering) might seemingly be a better alternative to when their child drinks in a social setting with a friend. Usually, drinking at home with parents was associated with less drinking (Donnermeyer and Park, 1995). Drinking with parents on the last drinking occasion was associated with a decreased risk of drinking in the past 30 days (Foley et al.,

2004), engaging in recent heavy episodic drinking (Foley et al., 2004; Mayer et al., 1998; Reboussin et al., 2012), or experiencing alcohol-related problems and drinking and driving (Reboussin et al., 2012). However, in a Dutch longitudinal study, Van der Vorst et al. (2010) found that the more adolescents drank at home (with or without parents), the more they consumed outside the home, and vice versa. Therefore, although adolescents who drank at home did not initially drink heavily, their alcohol consumption tended to increase at home and outside of the home over time. Both drinking at home and drinking outside the home predicted problem drinking at follow-up.

Social hosting/furnishing

When parents in the United States host a party with alcohol on their property or furnish alcohol for their underage children and their children's friends, they are committing a social hosting or furnishing offense, punishable by criminal law in 27 states (Wagoner et al., 2012). Parents might justify this by citing that providing alcohol at a party will prevent other alcohol risk behaviors, specifically drinking and driving. Studies assessing social hosting or furnishing alcohol were included in this review when measured with other types of provision. Three U.S. studies of adolescents (one longitudinal and two cross-sectional) overwhelmingly linked hosting and furnishing to negative alcohol-related outcomes. Adolescents whose parents (or friend's parents) allowed them to drink at home with friends or hosted a party were significantly more likely to consume alcohol (Foley et al., 2004), engage in heavy episodic drinking (Foley et al., 2004; Livingston et al., 2010; Reboussin et al., 2012), and experience alcohol-related problems (Reboussin et al., 2012). Most notably, Reboussin et al. (2012) found that adolescents who had attended a party where parents supplied the alcohol were at increased risk for drinking and driving or riding with a person who had been drinking.

Discussion

The weight of evidence from the studies reviewed here support the view that parental provision of alcohol and a place to consume alcohol is generally associated with increased adolescent alcohol use and, in some instances, increased heavy episodic drinking and higher rates of alcohol-related problems. Features of parental provision associated with increased alcohol involvement were offering sips and tastes, allowing and supervising adolescent alcohol use, hosting an alcohol event, and furnishing alcohol. The argument supporting parental provision focuses on the idea that there are contexts in which parents can teach their children responsible drinking behaviors that would, in turn, buffer them from risky drinking behaviors (Foley et al., 2004; McBride et al., 2003). However, this literature review suggests that by

allowing alcohol use at a young age, parents might increase the risk for progression toward unsupervised drinking more rapidly than it would otherwise have been.

Conversely, less frequent alcohol use and less risky alcohol-related behaviors were sometimes linked to parents' supplying alcohol to their child. The presence of peers is associated with increased risk taking among adolescents (Chein et al., 2011), whereas parental control is associated with decreased levels of alcohol consumption (Davies and Stacey, 1972; Harford and Spiegler, 1983). This was evident in some parental supply and alcohol use context studies reviewed—adolescents who drank with their parents consumed less alcohol, often when compared with adolescents who had drunk with their friends. This suggests that drinking with parents or receiving alcohol from parents somehow tempered alcohol use. However, in the majority of the parental supply and alcohol use context studies reviewed, abstainers were excluded from the analysis, meaning that adolescents were already current drinkers. Although the risks associated with parental provision were lower than the risks associated with drinking with peers, there were still risks—adolescents were still drinking alcohol and experiencing negative alcohol-related outcomes. All of the studies reporting these findings were cross-sectional, which fails to consider how the effect of parental provision on adolescent drinking outcomes might change over time. Two longitudinal studies (Komoro et al., 2007; Shortt et al., 2007) found that adolescents whose parents provided alcohol and drank with them had higher levels of drinking and subsequent problems compared with adolescents whose parents did not provide alcohol to them.

There is strong evidence to support the general notion that the easier alcohol is to obtain, the more adolescents will drink. This review suggests that there might be other mechanisms that help explain the association between parental provision and adolescent alcohol use. Parental provision provides adolescents with experiences that are both behavioral (i.e., the adolescent practices drinking) and normative (i.e., the behavior is approved by parents; Jackson et al., 1999). Usually, adolescents have less experience with alcohol, so their drinking decisions are based on expectations and beliefs about alcohol along with their perceptions of how others use and react to alcohol (Oei and Morawska, 2004). However, when adolescents are given the opportunity to drink by their parents, they gain experience of positive consequences (e.g., "It feels good") and avoidance of negative consequences (e.g., "I won't get in trouble"). With increased experience, adolescents perceive the benefits of alcohol to be more likely and the risks to be less likely (Goldberg et al., 2002). The perceived benefits of alcohol are in turn a predictor of future drinking. Sending a message that underage drinking is sanctioned by parents might convey approval of drinking. This approval might follow adolescents as they transition into other settings where alcohol use is more prevalent (e.g., university) and the opportunity to drink

increases (Livingston et al., 2010). Predictably, adolescents overestimate the extent to which their parents approve of or permit underage drinking (Livingston et al., 2010; Van der Vorst et al., 2006), whereas parents tend to underestimate how much their child drinks in other settings (e.g., mothers in Livingston et al., 2010). Parents believe they are socializing their children to alcohol use; however, by providing alcohol to their children, parents might not only reinforce their children's drinking behavior but also convey a message that underage alcohol use is acceptable. This socialization process might in fact have the opposite intended effect by instilling in children a sense of comfort in alcohol use, which might increase their tendency to drink, with or without their parents present.

Limitations and future directions

Several methodological limitations were identified among the studies reviewed that warrant consideration when interpreting the study findings. First, as indicated in Table 1, the definition and measurement of parental provision is not consistent. Studies frequently mixed constructs within studies (e.g., permissiveness, allowance of alcohol, alcohol-specific socialization), measured provision in various ways (e.g., location, source, parental offers, social hosting), and measured provision only among current drinkers. Parental provision was also often collapsed to include a range of provisions (i.e., sips and tastes, drinking at family occasions, acceptable in any situation vs. never acceptable at all). One implication of these limitations is that there is still no clear evidence as to the differential risk of letting an adolescent sip alcohol versus allowing an adolescent to drink larger amounts. In addition, some studies (Foley et al., 2004; Komro et al., 2007; Mayer et al., 1998; Reboussin et al., 2012) measured provision of alcohol by asking adolescents about their most recent drinking occasion and failing to account for drinking patterns. It has been observed that using the most recent drinking occasion could introduce bias into the "drank with parents" category (Blanchette and Heeren, 2013). Occasional or lower risk drinkers could be overly represented in that category, which would inflate the benefits of drinking with parents. On the other hand, more frequent drinkers with more drinking episodes in the specified period might be classified as "drank with friends" based on the most recent drinking occasion.

Second, the developmental context of drinking was largely ignored. Participant, legal drinking age, and age at first drink varied across studies. However, no studies determined whether age at first parental provision had an effect on alcohol-related outcomes over time. Kelly et al. (2012) and Warner and White (2003) found that age at onset of alcohol use, independent of parental provision, was the strongest predictor of subsequent problematic drinking. However, prospective studies that track both age at onset and parental

provision are needed to better clarify the relative role of these variables.

Third, many studies did not report the racial/ethnic sample composition, but in the ones that did, all but one (Komro et al., 2007) used samples that were predominantly White or of European origin, which severely limits the generalizability of the findings. Cultural variations in acceptability of alcohol use are prevalent. There is support that Black/African American adolescents have lower rates of alcohol use and heavy drinking occasions than White and Hispanic/Latino adolescents (Johnston et al., 2013). Black/African American and Hispanic/Latino parents are also more likely to enforce strict alcohol-related rules than White parents (Johnson and Johnson, 1999). Foley et al. (2004) found that Black/African American adolescents drank less than Whites or Hispanic/Latinos and were less likely to engage in heavy drinking or to have attended a party where parents supplied the alcohol. Hispanic/Latino adolescents were more likely than Whites or Black/African Americans to have obtained alcohol from a nonrelative adult. The differences were significant but small. There also was insufficient data on parental demographics in relation to parental provision of alcohol. Only Livingston et al. (2010) examined the association between parental provision and parental and home composition demographics. The nondrinking group had a higher percentage of Black mothers when compared with the group that allowed drinking with meals or drinking with friends. The group that allowed drinking with meals had a higher mean family income. The group that allowed drinking with friends was less likely to have a father in the home. Additional research is warranted that examines these issues among families with different compositions (e.g., single-parent families, multiple siblings, low-income families) and that have more ethnic and racial diversity.

Fourth, none of the studies in this review assessed AUD. Instead, dependent variables included drinking frequency, heavy episodic drinking, and problems related to drinking. There is a need to understand how parental provision might contribute to the development of AUD over time. Because AUD tends to manifest in late adolescence (Sher et al., 2005), focusing on one point in time does not inform how parental provision might affect later AUD. The cross-sectional studies and short follow-up periods in the longitudinal studies are insufficient to study the development of problem drinking patterns. Longitudinal studies with longer follow-up periods are warranted to evaluate the contributory role of various aspects of parental provision to long-term adolescent alcohol use and related problems.

Fifth, to evaluate the impact of parental provision on the risk of adolescent drinking problems, it will be necessary for future studies to include other psychosocial risk factors. For example, sibling alcohol use was rarely considered in the studies reviewed and could facilitate adolescent drinking behavior through direct provision or exposure to older, more

advanced drinking peer groups (Mayer et al., 1998; Windle, 2000). Active parental AUD could lead to more provision of alcohol, approval of use, less vigilance of use, and less discussion about alcohol use (Livingston et al., 2010). For example, Van Zundert et al. (2006) found that parents who drank more heavily tended to have more alcohol available to their children in the home. However, this did not translate into higher levels of adolescent alcohol use. Negative experiences (e.g., experiences with substance use disorders in others, a death in the family related to alcohol use) or outside influences (e.g., religion, parental social influences) might make parents less or more likely to allow their children to drink. Conversely, overestimation of other parents' approval of alcohol can strongly influence parental attitudes toward their own child's drinking. Misperceptions of other parental norms are associated with higher levels of parental and, subsequently, children's approval of adolescent alcohol use (LaBrie et al., 2011). One must consider parental provision of alcohol within the context of family influences, experiences, and expectations to inform research and the parents who look to empirical evidence for guidance.

Finally, the results of this review suggest that in some instances, adolescents will drink less during drinking occasions with a parent than with a friend or peer. These studies were cross-sectional and often excluded abstainers. Further, supervised alcohol use within the family context is not clearly understood and warrants more exploration. For example, the quantity of alcohol provided was not addressed in these studies, and it is unclear whether the parent and child were sitting down to drink together versus the parent being home while the child drank in another room. Moreover, little is understood about parent-child discussions about drinking in other contexts. Because alcohol initiation frequently occurs in a family setting (Warner and White, 2003), research examining the role that drinking in family contexts could play with regard to socializing young drinkers to less risky drinking behaviors during adulthood might be warranted. Interestingly, Kelly et al. (2012) found that the relationship between parental supply of first drink and heavy episodic drinking was fully mediated by responsible drinking practices. However, without a measure of how adolescents learn to drink responsibly, it is difficult to evaluate the impact of initiation in a family context. There is empirical support that increased parental communication about alcohol use is directly and indirectly related to better adolescent drinking outcomes (Spijkerman et al., 2008; Turrisi et al., 2000). A recent study found that, among college students, zero-tolerance messages conveyed by parents were more protective against alcohol use and consequences when compared with mixed messages or the absence of a message (Abar et al., 2012). A zero-tolerance approach was related to safer outcomes than other messages, even if students were already using alcohol. Although conducted with older adolescents, the findings are important to consider because they contradict the assumption that with the right communication,

parents can socialize their children to alcohol use and reduce risky drinking in other settings.

What messages should we be sending parents?

Based on the findings from this review, we have five messages for parents regarding alcohol provision. First, allowing children to drink underage, even when supervised by the parent, is always associated with a greater likelihood of drinking during adolescence over time. Parents should understand this connection and avoid allowing their children to drink. Second, findings on direct parental supply were mixed. Some studies found it to be risky, whereas others found it to be protective. However, the majority of the studies that found direct supply to be protective excluded alcohol abstainers, and all were cross-sectional. These studies cannot shed light on the relationship to becoming a drinker. There should be consideration as to how drinking patterns will change as the adolescent ages and is presented with increased drinking opportunities. Third, adolescents who drink at home or in a family setting drink less compared with adolescents who drink with their peers. Most of these studies asked adolescents about their most recent drinking occasion, which cannot inform about the overlap in drinking with parents only, peers only, or both parents and peers. Fourth, although more work is needed on what kinds of alcohol-specific rules parents should be setting, talking to children early about alcohol use expectations and having consistent rules are factors parents should consider. Preliminary results from a student intervention to reduce heavy drinking that included a parental component encouraging rule-setting related to alcohol consumption showed reductions in heavy weekly drinking, weekly drinking, and frequency of drinking among a sample of young Dutch adolescents (Koning et al., 2009). Finally, social hosting is never a good idea. Parents might believe they are keeping their children and their children's friends safe by allowing them to drink in their home. This is not the case. Adolescents who attend parties where parents supply alcohol are at increased risk for heavy episodic drinking, alcohol-related problems, and drinking and driving (Foley et al., 2004; Livingston et al., 2010; Reboussin et al., 2012).

Conclusion

Although more research related to parental provision is needed, the consensus from the literature is that when parents provide alcohol to their children and drink with them, they increase their child's risk of greater and more risky alcohol use behaviors over time. Debate continues to ensue regarding the risks and benefits of parents providing alcohol to underage drinkers, but, when parents provide alcohol to their children, parents are removing one more barrier to underage drinking. By allowing underage adolescents to drink, parents might indirectly be approving of underage drinking,

which could affect adolescent drinking in other social settings (e.g., drinking with peers). At this point, there is no research on how parental provision might contribute to the development of AUD. Until there is more substantial empirical support regarding parental provision of alcohol, parents should consider the literature on the risks related to early drinking (i.e., damage to the developing brain, risk for later AUD; Grant and Dawson, 1997; Hingson et al., 2006; White and Swartzwelder, 2005; Zeigler et al., 2005) and continue to discourage their children from drinking until they reach legal age.

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