Alcohol and Alcoholism, 2015, 50(5) 542–550
doi: 10.1093/alcalc/agv031
Advance Access Publication Date: 25 March 2015
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Understanding the Role of Context-Specific Drinking in Neglectful Parenting Behaviors

Bridget Freisthler[1,*], Jennifer Price Wolf[2], and Michelle Johnson-Motoyama[3]

[1]Luskin School of Public Affairs, University of California, Los Angeles, 3250 Public Affairs Building, Box 951656, Los Angeles, CA 90095, USA, [2]Prevention Research Center, Pacific Institute for Research and Evaluation, 180 Grand Avenue, Suite 1200, Oakland, CA 94612-3749, USA, and [3]University of Kansas School of Social Welfare, 1545 Lilac Lane, 311 Twente Hall, Lawrence, KS 66045-3129, USA

*Corresponding author: Luskin School of Public Affairs, University of California, Los Angeles, 3250 Public Affairs Building, Box 951656, Los Angeles, CA 90095, USA. E-mail: freisthler@luskin.ucla.edu

Received 21 December 2014; Revised 6 February 2015; Accepted 5 March 2015

Abstract

Aims: Child neglect is the most common form of child maltreatment, yet little is known about how drinking context may be related to particular subtypes of child neglect. This study examines the relationship between parental drinking in multiple contexts and the use of supervisory and physical neglectful.

Methods: A sample of 2152 parents of children 12 years or younger in 50 cities in California was obtained using a computer-assisted telephone interview. Past-year prevalence of child neglect was measured using the Multidimensional Neglectful Behavior Scale. Information was collected on past month or past-year frequency of having at least one drink in five contexts, continued drinking measures (e.g. number of drinks after the first drink) and sociodemographics. Data were analyzed using multilevel random effects logit models.

Results: Frequency of drinking in various contexts was related to different neglect subtypes. Specifically, frequency of drinking with friends was positively related leaving a child home alone when an adult should be present. Parents who drank more frequently with family were less likely to leave their child home alone in the past year yet more likely to unsafely monitor their child in the past year. Drinking at parties more often was related to being more likely to leave a child alone in a car sometime during the past year.

Conclusions: That no single drinking context is universally problematic for supervisory and physical neglect suggests that different social mechanisms may underlie the relationships observed between different drinking contexts and neglect subtypes.

INTRODUCTION

In 2011, over 500,000 children were confirmed victims of neglect according to Child Protective Services (CPS; US Department of Health and Human Services, 2012). The Fourth National Incidence Study of Child Abuse and Neglect, a nationally representative study of child maltreatment that includes community-based estimates of child maltreatment with CPS estimates, found that 4 per 1000 children were injured or physically harmed by neglect, and 16.2 per 1000 children were seriously endangered by neglectful caregiver behavior (Sedlak *et al.*, 2010). Federal legislation identifies a minimum set of acts or behaviors that define child a neglect (42 U.S.C.A. § 5106 g) which includes the failure of a caregiver to exercise a minimum degree of care in meeting the child's physical needs (e.g. medical care) or the

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failure to take adequate precautions to ensure a child's safety in and out of the home (English and LONGSCAN, 1997). However, in all of these statistics, subtypes of neglect are combined; thus, the unique social mechanisms that may place children at risk for specific subtypes of neglect are ignored.

Approximately 7.3% of adults report alcohol dependence or abuse in the general population (Substance Abuse and Mental Health Services Administration, 2013); alcohol use has been implicated in over 11% of neglectful parenting incidents known to child welfare agencies and other mandated reporters in the United States (Sedlak *et al.*, 2010). For children who were in out-of-home care prior to removal, child welfare workers reported that 46.1% of their caregivers had a problem with alcohol or drugs (Young *et al.*, 2007). Despite its status as a risk factor, little is known about how alcohol might be related to neglectful parenting. In a US study, 2.3% of parents in the general population reported being too drunk or high to take care of their children (Straus *et al.*, 1998).

Recent work has examined how the context in which drinking occurs may place children in the general population at risk for physical abuse (Freisthler and Gruenewald, 2013). Parents who report drinking more often at bars, at home or at parties use physical abuse more frequently; yet consumption of higher volumes of alcohol was unrelated to a higher frequency of physical abuse (Freisthler and Gruenewald, 2013). This is consistent with other studies that suggest going to and drinking in specific drinking locations relates to the use of more severe physical punishment (Freisthler, 2011). This finding goes against the conventional wisdom that volume of drinking (i.e. drinking to intoxication) is the causal factor relating alcohol abuse to maltreatment and indicates an important, independent relationship between drinking context and parenting behavior. Context-specific drinking frequency and continued volumes (i.e. number of drinks consumed), have not been examined in relation to child neglect or its subtypes.

Supervisory neglect is defined as the failure of a caregiver to appropriately supervise a child. Children often need parents to be both physically and mentally present to prevent childhood injuries. Drinking behaviors may interfere with a parent's ability to fulfill these monitoring and supervisory functions. Problems with alcohol are related to inadequate supervision by parents (Hixon, 1992; Coohey, 1998), and chronic supervisory neglect tends to occur in families where substance abuse problems are present (Coohey and Zhang, 2006). Children of problem-drinking mothers have higher risk of serious injury than children of abstainers (Bijur *et al.*, 1992). Parental alcohol misuse has also been related to higher risk of traumatic brain injury in childhood (Winqvist *et al.*, 2007) as well as parental behaviors that facilitate such injuries (Barczyk *et al.*, 2013).

Parents who frequently drink away from home may be more likely to leave their child home alone without supervision (Freisthler and Holmes, 2012). Drinking at higher volumes may leave a parent unable to adequately monitor a child the next day if he or she has a hangover (Freisthler and Holmes, 2012). Thus, both frequency and amount of drinking in specific contexts may be problematic depending on the type of neglect under consideration.

Physical neglect differs from supervisory neglect in that it involves failure of a caregiver to exercise a minimum degree of care in meeting the child's physical needs (e.g. for food, medical care). Poverty is a contextual factor recognized as one of the most important correlates of child neglect (Sedlak *et al.*, 2010). Declines in socioeconomic status and job loss may be associated with alcohol use, and therefore contribute to a caregiver's inability to provide for a child's basic physical needs (Dunn *et al.*, 2002). Moreover, parents with substance use problems commonly experience social isolation, marginalization and may divert family financial resources to obtain alcohol (Bays, 1990). Heavy drinking is also associated with the neglect of various personal habits (e.g. nutritional deficits caused by substituting alcohol for food; Ma *et al.*, 2000), which may extend to the physical neglect of one's children. In addition, poor executive cognitive functioning has been observed in women with substance use disorders (Giancola *et al.*, 1998), which may limit ability to plan and provide for a child's basic needs. Finally, substance use is related to higher levels of physical neglect, even when controlling for poverty, education and receipt of five different means-tested public benefits (e.g. food stamps; Carter and Myers, 2007).

With regard to drinking context, use of bars may represent a particular economic strain on families that contributes to physical neglect, as alcohol purchased at bars is more expensive than purchases made through off-premise alcohol outlets (Treno *et al.*, 2000). Thus, parents who spend significant amounts of time drinking at bars may be using up valuable resources, leading to the physical neglect of their child (ren)'s needs.

The number of alcohol outlets may further place children at risk as they provide parents with greater opportunities to spend time away from the home drinking (e.g. bars) or drink more frequently in off-premise venues (e.g. friend's homes; Freisthler and Holmes, 2012; Freisthler *et al.*, 2014a). From an ecological perspective, the density of off-premise outlets was related to higher rates of substantiated rates of child neglect (Freisthler *et al.*, 2004) suggesting that the physical availability of alcohol nearby may provide additional risks for neglectful parenting.

The current study examines whether or not a dose-response relationship exists in five drinking contexts for seven subtypes of child neglect. We hypothesize that drinking behaviors and drinking contexts may relate differentially to subtypes of neglect: (a) frequency of drinking at bars and restaurants will be related to leaving a child alone without adequate supervision; (b) frequency of drinking with friends and family will be related to unsafe monitoring and (c) greater volume of drinking will be related to physical neglect.

METHODS

Data source

The sample for this study is 2152 parents of children aged 12 or under living in California who reported alcohol use in the past year. These respondents were drawn from a larger study of 3023 participants in 50 mid-sized cities in California. The larger study was designed to represent the general population of parents in these mid-sized cities in California. Participants were contacted through listed samples of telephone numbers and sent a preannouncement letter with information about the study to increase sample size (Brick *et al.*, 1995; Tucker *et al.*, 2002). The sample was weighted on gender, race/ethnicity and household type (i.e. single mother, single father or two parent household) to reflect the population attributes of the cities from which respondents were sampled (Brick and Kalton, 1996). Respondents received $25 for 30 min interviews.

The final response rate was 47.4%. This rate reflects the continuing decline in response rates for telephone surveys (Kempf and Remington, 2007). At the Pew Research Center, the response rate of a typical telephone survey was 36% in 1997 and is 9% today (Kohut *et al.*, 2012). As participants in this study were limited to those with working landline telephones, biases associated with telephone non-coverage would tend to underestimate the prevalence of risks among younger parents, parents

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Table 1. Demographic statistics for current drinking parents ($n = 2152$)

Variable name	Weighted % or $\bar{x}$ (sd)	Sample n
Supervisory neglect		
Left child in car alone	6.2	130
Left child alone	17.0	378
Unsafe monitoring	13.8	272
Left a child, not sure if safe	4.1	92
Physical neglect		
Not enough food in the house	5.4	103
Did not take to Doctor when needed	7.0	132
Did not keep house warm enough	11.8	228
Overall drinking frequency (for all venues)	5.27 (7.9)	2146
Overall dose-response (for all venues)	5.84 (24.4)	2132
Frequency of drinking venue utilization		
Bar	0.21 (0.9)	2150
Restaurants	0.51 (1.5)	2147
Family	0.39 (1.2)	2150
Friends	0.47 (1.4)	2149
Parties	0.26 (0.8)	2147
Dose-response for drinking venues		
Bar	0.40 (3.7)	2144
Restaurants	0.44 (1.9)	2140
Family	0.46 (2.7)	2143
Friends	0.73 (6.8)	2143
Parties	0.35 (1.9)	2144
Gender (Focal child)		
Male	50.6	1095
Female	46.4	998
Age, in years (Focal child)	6.75 (3.6)	2085
0–5 years	39.2	822
6–9 years	31.1	651
10–12 years	29.7	623
Age		
Under 30	12	242
Age 31–45	66.4	1476
46 and over	21.7	434
Gender ($n = 3023$)		
Female	49.6	1354
Male	50.4	798
Number of children	2.11 (0.9)	2152
Marital status		
Single, divorced, widowed	23.1	249
Married or cohabiting	76.9	1903
Race/ethnicity ($n = 3009$)		
Non-Hispanic White	54.6	1380
Non-Hispanic Black	4.6	67
Hispanic	26.3	435
Asian	9.1	139
Multi-racial	2.7	72
Other	2.4	53
Income		
≤$20,000	6.6	121
$20,001–$40,000	13.1	211
$40,001–$60,000	13.8	259
$60,001–$80,000	13.9	314
$80,001–$100,000	13.0	307
$100,001–$150,000	21.7	531
$150,001+	15.1	344
Alcohol outlets (per area)		
Number off premise (2 miles radius)	40.54 (27.4)	2152
Number of on premise (2 miles radius)	63.55 (49.5)	2152
Proportion on premise that are bars	0.12 (0.08)	2152

of lower socioeconomic status and non-white parents (Kempf and Remington, 2007).

Measures

Past-year prevalence of child neglect was measured using seven items from the Multidimensional Neglectful Behaviors Scale (MNBS; Kantor *et al.*, 2003) which focuses on behaviors of caregivers that fail to provide for the needs of a child (Straus and Kantor, 2005). The range of parenting behaviors studied here (as opposed to those behaviors that result in harm to the child) allows for a more complete assessment of the different parenting contexts creating risky conditions for children (Straus and Kantor, 2005). MNBS includes separate measures for children under 5 and 5–12 that reflect developmentally appropriate parenting behaviors at those different ages. In addition, some items for children 5–12 are further delineated for 5–9 and 10–12. Four dimensions of supervisory neglect were measured in the current study: left child in the car alone (<10 years); left child alone when an adult should have been present; did not watch a child closely enough and did not know if a child was safe. The first two items fall under the category of inadequate substitute child care with the final two items relating to unsafe monitoring practices (Coohey, 2003). Three dimensions of physical neglect were measured including did not have enough food in the house for child; could not always take child to a doctor when needed and was not always able to keep the house warm enough when it was cold. Parents responded how often the behaviors occurred in the last year on a four point scale ranging from 'never happened' to 'always happened.' Variables were dichotomized to 'ever happened' or 'never happened'. These items were analyzed separately as they reflect different types of neglect with different etiologies and risks for harm requiring different prevention techniques (Jones, 1987; Coohey, 2008). The test-retest reliability of a scale with similar measures was 0.60 and showed satisfactory convergent validity using telephone survey procedures (Lound *et al.*, 2004).

To address socially desirability bias, we asked these questions using Interactive Voice Response (IVR) technology (so they were not asked by a live interviewer) and interspersed neglectful parenting items with positive parenting items. When used with questions about sensitive topics such as sexual behaviors or substance use, IVR use results in a greater disclosure of behaviors (Tourangeau and Smith, 1996; Midanik and Greenfield, 2008). An assessment of those who dropped out of the survey prior to the administration of the IVR questions were generally not significantly different from those who did not drop out when asked about non-problematic parenting behaviors asked before transition to IVR, suggesting minimal bias due to drop out (Kepple *et al.*, 2014).

Drinking and drinking contexts were ascertained through a series of questions that asked on how many days the respondent drank on a 28 or 365 day scale, depending on when the person last drank. Respondents were then asked on how many of those days they had two or more, three or more, six or more and nine or more drinks. Survey participants were asked to describe the number of times they drank at bars, restaurants, parties, family get-togethers or at friends' houses. The answers to these questions were used to determine the dose-response drinking across all drinking contexts (Table 1) with measures for total frequency and continuous volume of drinking. Measures of dose-response of drinking at each context were subsequently created (see Freisthler and Gruenewald, 2013 for details on the construction of these variables). The frequency variable refers to the number of times a respondent had one drink at each location. The continuous volume variable refers to the number of drinks after

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the first drink. Test-retest reliability for these measures in a population of California drinkers were good, ranging from 0.65 to 0.85 (Gruenewald and Johnson, 2006).

Measures of the physical availability of alcohol were constructed based on the number of on- and off-premise alcohol outlets within two miles of the respondents' address. On-premise outlets (where alcohol consumption occurs on site) were denoted by license types of 41 or 47 (restaurants that serve alcohol) and license types 23, 40, 42, 48, 61 or 75 (bars and pubs). An additional variable (proportion of bars) was constructed to parse the on-premise effects related to cities with higher proportions of bars (compared to restaurants) in each of the 50 cities. Off-premise alcohol outlets (where alcohol is purchased but taken somewhere else to be consumed) had license types of 20 or 21. Data on licensed alcohol outlets were obtained from the California Department of Alcoholic and Beverage Control. Outlet locations were geocoded to the street address of the establishment, with geocoding rates of these data exceeding 99%.

Control variables included gender of the focal child, gender, age, marital status and race/ethnicity of the respondent, number of children less than 18 in the household and household income. Variables were dummy coded into male (vs. female), married or in a marriage-like relationship (vs. single/widowed/divorced), African American, Hispanic/Latino, Asian American, Multi-racial/Other Race (vs. White/Caucasian). Income categories included income of $20,000 or less, $20,001–$40,000, $40,001–$60,000, $60,001–$80,000, $80,001–$100,000, $101,000–$150,000 and $150,001 and higher.

Analytic strategy

Data were analyzed using random effects logit models where individuals were nested within cities. These models were chosen to account for the nested sampling design and binary nature of the dependent variables. The first set of models examined the relationship of drinking frequency and continued volumes on the four supervisory neglect and three physical neglect outcomes. The next set of models examines the dose-response relationship between five drinking contexts and the neglect outcomes. The models included adjustments for heteroscedasticity relative to overall drinking frequencies.

RESULTS

Drinking frequency and continued volume

Supervisory neglect

Table 2 presents information on frequency and continued volume for the supervisory neglect models. Frequency (but not continued volume) was positively related to three of the four supervisory neglect measures (leaving a child home alone, leaving a child in a car alone and not watching a child closely enough) in the unadjusted models. Once demographic controls were added to the models, frequency of drinking was only related to leaving a child in a car alone. A higher continued volume of drinking was negatively related to leaving a child in a car alone. The total number of on-premise alcohol outlets within two miles was related to a greater likelihood of leaving a child home alone.

Physical neglect

Drinking more frequently was related to lower likelihood of reporting all three subtypes of physical neglect in the unadjusted models (see Table 3). Frequency of drinking was not related to physical neglect in the models with demographic controls. Drinking more (i.e. higher volumes) was related to a higher likelihood of not being able to keep

Table 2. Multilevel random effects logit models of the association between frequency of alcohol consumption, continued volumes of alcohol consumption and child supervisory neglect

	Left child home alone				Left a child, not sure if safe			
	Model 1 (Unadjusted)		Model 2 (Adjusted)		Model 1 (Unadjusted)		Model 2 (Adjusted)	
	β (SE)	*P*	*β* (SE)	*P*	*β (SE)*	*P*	*β* (SE)	*P*
Frequency	0.016 (0.006)	***0.008***	0.004 (0.007)		0.003 (0.014)		0.011 (0.017)	
V–F (continued volumes)	0.002 (0.002)		0.005 (0.003)		−0.007 (0.013)		−0.004 (0.016)	
Off-premise alcohol outlets (2 miles radius)			−0.003 (0.003)				0.004 (0.004)	
On-premise alcohol outlets (2 miles radius)			0.003 (0.001)	0.041			−0.002 (0.003)	
Proportion on premise that are bars			−0.010 (0.006)				−0.009 (0.012)	
Model fit statistics								
Intraclass correlation	0.008		0.009		0.015		0.014	
AIC	1904.4		1698.0		705.6		670.3	
	Unsafe monitoring				Left child in car alone			
	Model 1 (Unadjusted)		Model 2 (Adjusted)		Model 1 (Unadjusted)		Model 2 (Adjusted)	
	β (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*
Frequency	0.017 (0.008)	0.028	0.025 (0.009)		0.065 (0.010)	***<0.001***	0.052 (0.010)	***<0.001***
V–F (continued volumes)	−0.011 (0.006)		−0.018 (0.007)		−0.024 (0.008)	***0.002***	−0.020 (0.008)	***0.009***
Number off premise (2 miles radius)			−0.002 (0.003)				−0.003 (0.004	
Number on premise (2 miles radius)			0.001 (0.001)				0.002 (0.002)	
Proportion on premise that are bars			0.007 (0.006)				0.008 (0.012)	
Model fit statistics								
Intraclass correlation	0.028		0.028		0.105		0.034	
AIC	1714.0		1580.6		856.4		842.2	

Model 2 estimates have been adjusted for gender of the child, gender, age, marital status and race/ethnicity of the parent, number of children in the household and household income. SE = Standard Error. V–F = Volume–Frequency.

P-values denoted by ***bold italics*** are those that remain statistically significant when using the bonferroni adjustment for multiple comparisons.

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Table 3. Multilevel random effects logit models of the association between frequency of alcohol consumption, continued volumes of alcohol consumption and child physical neglect

	Not having enough food in the house				House is not warm enough			
	Model 1 (Unadjusted)		Model 2 (Adjusted)		Model 1 (Unadjusted)		Model 2 (Adjusted)	
	β (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*
Frequency	−0.083 (0.026)	***<0.001***	−0.036 (0.028)		−0.021 (0.008)	***0.013***	−0.010 (0.010)	
V–F (continued volumes)	0.004 (0.017)		−0.002 (0.020)		0.004 (0.001)	***0.008***	0.003 (0.001)	0.029
Number off premise (2 miles radius)			0.002 (0.004)				0.001 (0.003)	
Number on premise (2 miles radius)			−0.002 (0.003)				0.002 (0.001)	
Proportion on premise that are bars			−0.003 (0.012)				0.001 (0.008)	
Model fit statistics								
Intraclass correlation	0.050		0.030		0.002		<0.000	
AIC	843.1		773.8		1548.8		1393.6	
	Not able to take child to doctor when sick							
	Model 1		Model 2					
	β (SE)	*P*	*β* (SE)	*P*				
Frequency	−0.051 (0.013)	***<0.001***	−0.025 (0.014)					
V–F (continued volumes)	0.004 (0.004)		0.003 (0.005)					
Number off premise (2 miles radius)			−0.001 (0.004)					
Number on premise (2 miles radius)			0.0004 (0.002)					
Proportion on premise that are bars			−0.008 (0.010)					
Model fit statistics								
Intraclass correlation	0.066		0.024					
AIC	1047.5		984.5					

Model 2 estimates have been adjusted for gender of the child, gender, age, marital status and race/ethnicity of the parent, number of children in the household and household income. SE = Standard Error. V–F = Volume–Frequency.

P-values denoted by ***bold italics*** are those that remain statistically significant when using the bonferroni adjustment for multiple comparisons.

the home warm enough when it was cold outside. Alcohol outlets were not related to physical neglect.

Context-specific frequency and continued volume

Supervisory neglect

In adjusted models (Table 4), respondents who drank more often with friends were more likely to leave their children home alone during the past year. Past-year frequency of drinking with family members was negatively related to leaving a child home alone but positively related to unsafe monitoring of children. Higher volumes of drinking at family get-togethers were negatively related to unsafe monitoring. Past-year frequency of drinking at parties was related to a greater likelihood of leaving a child alone in a car while higher continued volume of drinking at parties was related to higher likelihood of unsafe monitoring by parents. Neither drinking frequency nor volume was related to leaving a child in a questionably safe place.

Physical neglect

In adjusted models (Table 5), frequency of drinking at parties was negatively related to a parent's reported inability to take a child to the doctor; however, higher continued volume at parties was positively related to this measure. Frequency and continued volumes in any drinking context were unrelated to a parent's report of insufficient food or heat in the house.

Demographic covariates

Results for demographic controls were consistent between the frequency and continued volume and context-specific models. Older parents and Asians were more likely to leave their child home alone. Fathers, married/cohabiting respondents, and Black or other race/ethnicity were less likely to leave their child home alone. Married respondents, Hispanics and parents of boys were more likely to report not knowing if their child was safe. Fathers and those older than 46 were more likely to not watch their child closely enough. Fathers and married respondents were less likely to leave their child alone in a car. Older parents Asians, and Hispanics were more likely to report all the physical neglect outcomes. Having more children was positively related to not having enough food or keeping the house warm enough. Higher income was negatively related to not having enough food and not being able to take a child to the doctor. Those who report being of multi-race/ethnicity were more likely to report not being able to keep the house warm.

DISCUSSION

Few studies have examined the relationships between drinking contexts, dimensions of alcohol use and specific subtypes of neglect. In this study, frequency of drinking (vs. continued volume) was related to a higher likelihood of supervisory neglect but a lower likelihood of physical neglect. The frequency and continued volume of drinking in particular contexts were distinctly related to different types of supervisory and physical neglect. That no single drinking context is universally problematic for supervisory and physical neglect suggests that different social mechanisms may underlie the relationships observed between different drinking contexts and neglect subtypes.

People who drink more frequently also drink at more places (Freisthler, 2011). The majority of the research has focused not of frequency of drinking or drinking context *per se* but on dependence or

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Table 4. Multilevel random effects logit models of the association between context-specific frequency of alcohol consumption, context-specific continued volumes of alcohol consumption and child supervisory neglect

	Left child home alone				Left a child, not sure if safe			
	Model 1 (Unadjusted)		Model 2 (Adjusted)		Model 1 (Unadjusted)		Model 2 (Adjusted)	
	β (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*
Drinking context: frequency								
Bars	−0.029 (0.093)		0.041 (0.105)		−0.016 (0.312)		0.146 (0.355)	
Restaurant	−0.004 (0.045)		−0.011 (0.053)		−0.003 (0.121)		0.021 (0.122)	
Family	−0.107 (0.071)		−0.154 (0.077)	.046	0.162 (0.183)		0.048 (0.238)	
Friends	155 (0.044)	***<0.001***	0.134 (0.057)	.018	−0.078 (0.192)		−0.089 (0.211)	
Parties	−0.065 (0.087)		−0.014 (0.096)		0.104 (0.231)		0.146 (0.253)	
Drinking context: V–F (continued volumes)								
Bars	−0.013 (0.050)		−0.033 (0.062)		−0.092 (0.309)		−0.143 (0.333)	
Restaurant	0.047 (0.038)		0.035 (0.047)		0.069 (0.129)		0.078 (0.125)	
Family	−0.010 (0.042)		−0.001 (0.060)		−0.272 (0.235)		−0.162 (0.279)	
Friends	−0.016 (0.014)		−0.002 (0.026)		−0.002 (0.201)		0.023 (0.215)	
Parties	0.060 (0.050)		0.046 (0.068)		0.025 (0.208)		−0.005 (0.217)	
Model fit statistics								
Intraclass correlation	0.008		0.009		0.015		0.014	
AIC	1907.6		1693.7		714.7		679.8	
	Unsafe monitoring				Left child in car alone			
	Model 1 (Unadjusted)		Model 2 (Adjusted)		Model 1 (Unadjusted)		Model 2 (Adjusted)	
	β (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*
Drinking context: frequency								
Bars	0.117 (0.096)		0.054 (0.099)		0.151 (0.133)		0.095 (0.136)	
Restaurant	−0.012 (0.057)		−0.010 (0.056)		0.001 (0.082)		−0.020 (0.085)	
Family	0.084 (0.062)		0.203 (0.079)	***0.010***	0.235 (0.085)	***0.006***	0.161 (0.092)	
Friends	0.062 (0.083)		038 (0.090)		0.115 (0.126)		0.091 (0.125)	
Parties	−0.161 (0.097)		−0.104 (0.103)		0.403 (0.149)	***0.007***	341 (0.145)	0.018
Drinking context: V–F (continued volumes)								
Bars	−0.024 (0.052)		−0.016 (0.056)		−0.026 (0.059)		−0.020 (0.057)	
Restaurant	−0.037 (0.078)		−0.025 (0.077)		0.069 (0.064)		0.080 (0.064)	
Family	−0.128 (0.079)		−0.205 (0.093)	0.027	−0.065 (0.070)		−0.053 (0.076)	
Friends	−0.046 (0.074)		−0.041 (0.087)		−0.096 (0.129)		−0.085 (0.135)	
Parties	0.152 (0.065)	0.019	0.144 (0.073)	0.049	−0.256 (0.163)		−0.225 (0.162)	
Model fit statistics								
Intraclass correlation	0.028		0.028		0.105		0.034	
AIC	1724.9		1593.9		869.1		857.6	

Model 2 estimates have been adjusted for number of local off-premise alcohol outlets, number of local on-premise alcohol outlets, percentage of on-premise alcohol outlets that are bars, gender of the child, gender, age, marital status and race/ethnicity of the parent, number of children in the household and household income. SE = Standard Error. V–F = Volume–Frequency.

P-values denoted by ***bold italics*** are those that remain statistically significant when using the bonferroni adjustment for multiple comparisons.

abuse of alcohol and quantities of alcohol consumed (Kelleher *et al.*, 1994; Dube *et al.*, 2001). Our findings indicate that while quantity of alcohol consumed relates to certain types of neglect (i.e. leaving a child alone in a car), it does not relate to most others. Parents who drink more often in certain contexts (e.g. family get-togethers, friend's homes and at parties) report a higher frequency of certain types of supervisory neglect while those who drink greater volumes in particular contexts (such as parties) more often report physical neglect. Therefore, standard quantity and frequency drinking measures or measures that focus only on heavy drinking occasions may miss the role of drinking contexts in risk for neglect.

Parents who drank more often at friends' houses were more likely to leave their child home alone. Those who drank more often at family get-togethers were more likely to practice unsafe monitoring. In addition, those who drank more frequently at parties were more likely to leave their child in the car alone. More research is needed to determine the mechanisms underlying these relationships and whether these relationships are temporal in nature. For example, parents who drink more often in these contexts may not be able to afford or arrange for child care, consequently leaving their children alone, in the car, or without someone to check on their safety. These parents may also have social support systems with members who are not available to help or cannot be trusted with supervision or child care (Coohey, 2007, 2008; Freisthler *et al.*, 2014b). The cross-sectional investigation of past-year prevalence of both neglectful parenting and alcohol use precludes determination of whether or not drinking causes the neglectful parenting. Studies that assess drinking and parenting in real time would provide better information about whether or not drinking causes neglectful parenting. Contrary to our hypothesis, parents who drank more frequently at bars or restaurants were not more likely to leave their children home alone. That the number of on-premise outlets within two miles was positively related to leaving a child home

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Table 5. Multilevel random effects logit models of the association between context-specific frequency of alcohol consumption, context-specific continued volumes of alcohol consumption and child physical neglect

	Not having enough food in the house				House is not warm enough			
	Model 1 (Unadjusted)		Model 2 (Adjusted)		Model 1 (Unadjusted)		Model 2 (Adjusted)	
	β (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*	*β* (SE)	*P*
Drinking context: frequency								
Bars	−0.192 (0.452)		−0.229 (0.558)		0.261 (0.125)	0.037	0.273 (0.142)	
Restaurant	−0.094 (0.151)		0.027 (0.148)		−0.148 (0.128)		−0.107 (0.141)	
Family	−0.334 (0.353)		−0.218 (0.429)		−0.0001 (0.098)		0.099 (0.107)	
Friends	−0.061 (0.247)		0.071 (0.264)		−0.055 (0.062)		−0.054 (0.068)	
Parties	−0.455 (0.332)		−0.367 (0.358)		−0.033 (0.115)		−0.057 (0.131)	
Drinking context: V–F (continued volumes)								
Bars	0.015 (0.246)		0.029 (0.333)		−0.058 (0.070)		−0.062 (0.075)	
Restaurant	0.035 (0.153)		0.036 (0.152)		−0.017 (0.100)		−0.009 (0.108)	
Family	−0.367 (0.504)		−0.407 (0.562)		−0.071 (0.073)		−0.112 (0.082)	
Friends	−0.009 (0.148)		−0.018 (0.165)		033 (0.020)		0.038 (0.022)	
Parties	0.233 (0.149)		0.205 (0.179)		0.038 (0.062)		0.054 (0.071)	
Model fit statistics								
Intraclass correlation	0.053		0.033		0.001		<0.000	
AIC	859.9		780.8		1548.0		1391.5	
	Not able to take child to doctor when sick							
	Model 1 (Unadjusted)		Model 2 (Adjusted)					
	β (SE)	*P*	*β* (SE)	*P*				
Drinking context: frequency								
Bars	−0.035 (0.257)		−0.070 (0.290)					
Restaurant	−0.129 (0.120)		−0.036 (0.118)					
Family	−0.151 (0.181)		−0.081 (0.221)					
Friends	0.102 (0.107)		0.144 (0.113)					
Parties	−0.634 (0.233)	***0.007***	−0.519 (0.249)	0.037				
Drinking context: V–F (continued volumes)								
Bars	0.010 (0.060)		0.025 (0.079)					
Restaurant	0.015 (0.101)		0.014 (0.103)					
Family	−0.081 (0.119)		−0.080 (0.142)					
Friends	−0.030 (0.032)		−0.027 (0.037)					
Parties	0.260 (0.080)	***0.001***	0.205 (0.090)	0.022				
Model fit statistics								
Intraclass correlation	0.079		0.025					
AIC	1061.5		992.7					

Model 2 estimates have been adjusted for number of local off-premise alcohol outlets, number of local on-premise alcohol outlets, percentage of on-premise alcohol outlets that are bars, gender of the child, gender, age, marital status and race/ethnicity of the parent, number of children in the household and household income. SE = Standard Error. V–F = Volume–Frequency.

P-values denoted by ***bold italics*** are those that remain statistically significant when using the bonferroni adjustment for multiple comparisons.

alone suggests that neighborhood effects continue to play a role in maladaptive parent.

For supervisory neglect it does not necessarily matter how much parents drink on a single occasion, but how often they drink, and in what context. However, our study only asked context-specific drinking questions of current drinkers; we were unable to ascertain whether these effects would be similar for parents who frequent similar contexts but do not drink at those locations. Here, parents who attend more social events and are out of the home more regularly may be more likely to neglect their children, regardless of their drinking behavior. Additionally, neglectful behavior and frequent socializing outside of the house could have a reciprocal relationship. If parents leave children alone or without adequate supervision once without negative consequences, they may be more likely to do so again, increasing the regularity by which they frequent contexts outside of their home.

For some drinking contexts, heavier drinking was related to supervisory or physical neglect. Parents who drank more at family get-togethers were less likely to report unsafe monitoring. Future studies should try to ascertain the temporal relationship between drinking and neglectful parenting. For example, it could be that heavier drinking at family events garners attention from other family members, who then 'step in' to ensure that children are supervised. However, parents may be less likely to report unsafe monitoring in the survey because the parent perceives the environment to be safer when other family members are available to supervise. In contrast, parents who drank more at parties were more likely to report unsafe monitoring. In this case, heavier drinking at parties (which was also related to not taking a child to the doctor when needed) may be reflective of a lifestyle where a parent is insufficiently 'present' to ensure the safety of their children. Additional work should ascertain whether the drinking and neglectful parenting occur contemporaneously.

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Limitations

People drink more or less depending on drinking context (Paradis *et al.*, 2011). Although our study examines context-specific drinking frequency, we are unable to assess context-specific drinking quantity. The study's response rate reflects a continuing decline in response rates for telephone surveys (Kempf and Remington, 2007). We weighted study sample segments to reflect the greater population attributes of the sampled cities as an approach to deal with lack of representativeness stemming from non-response (Brick and Kalton, 1996). We are unable to untangle the temporal relationships between context-specific drinking and neglectful behaviors due to the nature of cross-sectional data. Our questions did not separate the context of drinking (family get-together) and the location of drinking. As a result, some of these drinking instances may have occurred in the parent's home, which may have led some parents to underreport unsafe monitoring. Our study did not also assess the social context in which the drinking occurred. Parents who drink alone may have different risks for neglect than parents who drink when others are around, regardless of where they are drinking.

Adults are less likely to report substance use behaviors and related problems in telephone interviews that self-administered surveys (Aquilino, 1994; Kraus and Augustin, 2001; Beck *et al.*, 2014). Our estimates of drinking behaviors may consequently be underestimates due to social desirability bias. However, telephone interviews have less missing data, may be less subject to non-response bias and are a more efficient mode of data collection, particularly for general population samples (Kraus and Augustin, 2001). Self-reporting neglectful parenting practices might cause some parents to report socially desirable behaviors, not respond to those items or drop out of the survey. We employed procedures to minimize socially desirable reporting but it remains a concern.

Future directions

Emerging literature suggests that where people go within their neighborhoods graduates the risk of community exposures (Inagami *et al.*, 2007; Rainham *et al.*, 2009). Studies examining routine individual patterns of travel, or 'activity spaces' (Golledge and Stimson, 1997), may consequently better explore more nuanced interactions between alcohol use, drinking context and child neglect. Risk for supervisory and physical neglect appears to be a complex interplay between how often parents go out (their level of exposure) and where they go (the contextual risk of their environment). Future research should focus more on the places parents go and how frequently they go there in order to best establish nuanced risk for child abuse and neglect.

FUNDING

This project was supported by grant number P60-AA-006282 from the National Institute on Alcohol Abuse and Alcoholism. The content is solely the responsibility of the authors and does not necessarily represent the National Institute on Alcohol Abuse and Alcoholism or the National Institutes of Health.

CONFLICT OF INTEREST STATEMENT

None declared.

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