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Economic Insecurity, Poverty, and Parental Alcohol Misuse

A dissertation

presented to

the faculty of the Department of Psychology

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Philosophy in Psychology

by

Joseph T. Tucciarone Jr.

August 2021

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Keywords: economic insecurity; housing insecurity; food insecurity; parental alcohol misuse;
parental binge drinking; parental heavy alcohol consumption

ABSTRACT

Economic Insecurity, Poverty, and Parental Alcohol Misuse

by

Joseph T. Tucciarone Jr.

Because parental alcohol misuse is associated with numerous negative outcomes for drinkers and other family members, it is important to examine factors predictive of alcohol misuse patterns among parents living with at least one child under the age of 18. Two possible factors include economic insecurity and poverty. This study sought to address whether measures of economic insecurity (i.e., housing and/or food insecurity in the past 12 months) and a dichotomous measure of poverty predict parental binge drinking and parental heavy alcohol consumption in a large population-based sample. It was hypothesized that economic insecurity and poverty, analyzed separately, would predict both occurrence of parental alcohol misuse and amount of alcohol consumed. Results did not support hypotheses; rather, where significant, they indicated that measures of economic insecurity and poverty negatively predicted parental alcohol misuse. However, effect sizes were small and preclude practical application. Findings are discussed and future research directions are identified.

DEDICATION

I dedicate this dissertation to:

Chris Dula, Ph.D., my own personal Dude, for without your guidance and encouragement, I could not have abided. You believed in me when I could not, and I miss you every day. I look forward to catching up with you in the Great Bowling Alley in the Sky, bumping some Fishbone, and talking philosophy.

And to Jessie and Millie, the loves of my life. You two have given up so much and have been stronger, braver, and more resilient throughout this process than anyone should ever have to be. I love you both beyond measure. We did it, fam.

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Chapter 1. Introduction

The present study seeks to address a gap in research exploring factors contributing to parental alcohol misuse. Specifically, this study considers whether different measures of economic insecurity and poverty predict parental alcohol misuse in parents living with at least one child under the age of 18. Previously, researchers (e.g., Barrera et al., 2001; Crouch et al., 2019) have differentiated between poverty and economic insecurity, noting that these two constructs are related but functionally distinct. Whereas economic insecurity relates to the subjective experience of struggling to meet basic needs, poverty is an objective measure of financial positioning.

Alcohol misuse is prevalent in the United States, with 26.45% of adults over the age of 18 reporting having engaged in binge drinking (i.e., five or more drinks for men or four or more drinks for women in a two-hour period) in the past month, and 6.6% of adults reporting heavy alcohol consumption (i.e., consuming 15 or more drinks per week for men, or eight or more drinks per week for women (Centers for Disease Control and Prevention, 2021). In the 2018 National Survey on Drug Use and Health (NSDUH), nearly half (48%) of all drinkers aged 12 or older reported binge drinking, approximately a quarter of which (24.7%) reported heavy alcohol use within the last month (Substance Abuse and Mental Health Services Administration [SAMHSA], 2019). Given the prevalence of alcohol misuse in the U.S., it is not surprising that many children are exposed to parental alcohol misuse. Combining NSDUH data from 2009-2014, Lipari and Van Horn (2017) reported that 10.5% of children under the age of 18 live with at least one parent with an alcohol use disorder, defined as a chronic disorder characterized by impairment in the ability to control or stop alcohol consumption despite adverse consequences (American Psychiatric Association [APA], 2013). For the drinker, alcohol misuse is associated

with a wide range of adverse physical effects (Barclay et al., 2008), impairment to psychosocial function (Fergusson et al., 2013), problems associated with employment (French et al., 2011), behavioral problems (Boden et al., 2012; Watt et al., 2013), legal troubles (Boden et al., 2013; Shaw et al., 2012), and risk for physical injury and alcohol-related death (Centers for Disease Control [CDC], 2013; Cherpitel et al., 2018; Fendrich et al., 2016).

In addition, the risks of alcohol misuse extend beyond the individual and may have adverse impacts on other family members. Compared to children whose parents do not misuse alcohol, children exposed to parental alcohol misuse face significant risks, including higher rates of anxiety, depression, and low self-esteem (Omkarappa & Rentala, 2019), impaired social competence (Omkarappa et al., 2019), increased risk for behavioral and mental health disorders (Jennison, 2014; Raitasalo et al., 2018), early-onset alcohol misuse (Cox et al., 2018; Jennison, 2014), and maltreatment and neglect (Dakil et al., 2012; Lakshamma & Kalavati, 2018; Lloyd & Kepple, 2017; Walsh et al., 2003). In addition, Dube et al. (2001) found that, compared to respondents whose parents had not misused alcohol, those whose parents had misused alcohol were substantially more likely to report having experienced physical, emotional, and sexual abuse, physical and emotional neglect, as well as exposure to a range of household dysfunction, including intimate partner violence.

Statement of the Problem

Given that parental alcohol misuse may increase the likelihood of potentially traumatizing childhood experiences, it seems important to identify factors associated with parental alcohol misuse. In recent decades, however, much of the research on parental alcohol misuse has focused on outcomes thereof (e.g., Godsall et al., 2004; Jennison, 2014; Wallinius et al., 2016), while comparatively fewer studies have investigated risk factors for parental alcohol

misuse. Previous studies have identified parental alcohol misuse as a potential outcome of constructs such as job burnout, parental burnout, and depressive symptoms (Mikolajczak et al., 2020) or have associated parental alcohol misuse with parenthood-related stress (Little et al., 2009; Maloney et al., 2010). Stress may be an important factor in drinking behaviors (Keyes et al., 2012), and studies have indicated that economic insecurity (i.e., difficulty meeting the costs of food, housing, and/or health care; Fedina et al., 2020) and poverty (i.e., combined household income falling below the poverty threshold for household size; US Census Bureau, 2019) are significant stressors impacting mental and physical health (Rohde et al., 2016; World Health Organization & Calouste Gulbenkian Foundation, 2014), particularly for economically disadvantaged parents of young children (Neppl et al., 2016; Steele et al., 2016). Therefore, it is plausible that both economic insecurity and poverty may predict parental alcohol misuse.

To date, however, there appears to be a little research investigating the relationship between parental alcohol misuse and household income or measures of economic insecurity. Using large sample of households with children under the age of 18 drawn from the 2011-2015 Behavioral Risk Factor Surveillance System (BRFSS)—a national, population-representative survey coordinated annually by the Centers for Disease Control (CDC) in collaboration with states and U.S. territories—the current study investigates whether two measures of economic wellbeing (i.e., economic insecurity and household income relative to household size) predict parental alcohol misuse.

Significance

For decades, the field of public health has demonstrated the value of science-based prevention and treatment (Weisz et al., 2005). The basis of prevention science is that empirically observable risk and protective factors reliably predict adverse health outcomes, and that

interventions that reduce or eliminate risk factors and augment protective factors can prevent adverse health outcomes, such as substance misuse (Hawkins et al., 2002). This approach has been used to identify health disparities among vulnerable populations as well as the factors contributing to health disparities (Sullivan-Bolyai et al., 2005), yielding numerous effective interventions, particularly at the community level (France et al., 2010; Gloppen et al., 2015).

Currently, research has indicated that exposure to parental alcohol misuse may have detrimental psychosocial impacts on children (e.g., Omkarappa & Rentala, 2019); increase the likelihood of adolescent alcohol misuse (e.g., Cox et al., 2018); and place children at greater risk for a range of potentially traumatizing experiences (Dakil et al., 2012; Dube et al., 2001; Lakshamma & Kalavati, 2018; Lloyd & Kepple, 2017; Walsh et al., 2003). Research has also indicated that household economic insecurity and poverty during childhood are associated with other markers of childhood adversity such as exposure to physical and emotional abuse and neglect, (Chilton et al., 2015; Conrad-Hiebner & Byram, 2018), mental illness, parental incarceration, divorce/separation, and domestic violence (Mersky et al., 2016). However, questions remain regarding whether household economic insecurity and poverty relate to parental alcohol misuse.

More specifically, it is not clear whether recent (i.e., within the past 12 months) economic insecurity or poverty predicts parental alcohol misuse. Moreover, it is not clear whether economic insecurity and poverty may predict differential patterns of alcohol misuse among parents (i.e., binge drinking vs. heavy drinking). Identifying the conditions that predict parental alcohol misuse is an essential step toward designing, selecting, and implementing targeted preventive interventions. Accordingly, the present study attempts to contribute to the body of

literature on parental substance misuse; provide direction for future research; and inform treatment, prevention, and policy (France et al., 2010; Gloppen et al., 2015).

Specific Aims

There are two specific aims for this study:

- Aim # 1 Test whether a measure of economic insecurity (i.e., housing and/or food insecurity) predict measures of alcohol misuse (i.e., binge drinking and heavy alcohol consumption) among parents living with children under the age of 18, and whether economic insecurity predicts alcohol misuse over and above any significantly related covariates.
- Aim # 2 Test whether a measure of poverty predicts measures of alcohol misuse (i.e., binge drinking and heavy alcohol consumption) among parents living with children under the age of 18, and whether poverty predicts alcohol misuse over and above any significantly related covariates.

Chapter 2. Literature Review

Economic Insecurity and Poverty

Economic insecurity has been conceptualized in terms of households' ability to meet the financial costs of basic needs, including housing (i.e., rent or mortgage; utilities), food, and access to medical care (Breiding et al., 2017; Conrad et al., 2019; Fedina et al., 2020). It is estimated that approximately 106 million people, or roughly one-third of the population in the United States, live in economically insecure households, with people of color accounting for 52% of people living in economic insecurity (PolicyLink & The Program for Environmental and Regional Equity [PERE], 2018). Broadly, drivers of economic insecurity in the U.S. include declining incomes in the face of rising basic costs of living, employment discrimination, and inadequate social support systems (PolicyLink & PERE, 2018).

Economic Insecurity

In addition, a recently published review of economic trends and their impacts on American families over the past decade highlighted widening income and wealth inequality, low quality jobs, economic volatility, and other factors as contributing to a growing economic precariousness among families across the income spectrum, concentrating among families with children, particularly low-income and minority families (Cooper & Pugh, 2020). Estimates of the proportion of U.S. children living in economically insecure households vary. Dubay and Zarabozo (2013) reported a three-year increase in the percentage of children living in economically insecure households in the wake of the Great Recession. Specifically, between 2007-2010, the percentage of children with no indicators of economic insecurity decreased from 35% to 29%; in that same span, the percentage of children with three or more markers of economic insecurity increased from 28% to 34% of all children. More recently, it was estimated

that 32.5 million (44%) of U.S. children live in economically insecure households (PolicyLink & PERE, 2018). The markers of economic insecurity include inability to pay for basic needs, such as housing, utilities, food, or medical bills. Those that will be examined in the current study include difficulty meeting the cost of housing or food.

Food Insecurity

The United States Department of Agriculture (USDA) estimated that 11.1% (14.3 million) of all U.S. households, and 13.9% of households with children, were food insecure at some time during 2018 (USDA, 2019). Moreover, the USDA (2019) noted that in most cases, when the adults in a household are food insecure, so too are the children in the household. Among households with children, food insecurity in 2018 was especially prominent in households headed by a single woman (27.8%) and those headed by a single man (15.9%) compared to a comparatively low rate (8.3%) of food insecurity among married-couple households with children (USDA, 2019). More recently, sharp rises in household food insecurity have been attributed to the COVID-19 pandemic (Bauer, 2020). As of April 2020, the rate of food insecurity among American households (21.9%) has more than doubled that of 2018; in households with children, the rate of household food insecurity (34.5%) has increased by approximately 130% (Bauer, 2020).

Housing Insecurity

Housing insecurity is a broad construct that covers multiple dimensions of housing issues, including unaffordability of housing, low housing quality, low neighborhood safety, overcrowding, and homelessness (Cox et al., 2016; Cutts et al., 2011). In the present study, housing unaffordability is the most relevant dimension of housing insecurity. Of particular interest is housing-cost burden, defined as the percentage of a household's gross monthly income

spent on rent or mortgage (Schwartz & Wilson, 2008). In the U.S., a household is considered moderately cost-burdened when more than 30% of the household's gross income goes to housing costs; when the household spends more than 50% of its gross income on housing, the household is considered severely burdened (Leopold et al., 2016; Schwartz & Wilson, 2008). According to the Joint Center for Housing Studies of Harvard University (JCHS; 2019), 31.5% of U.S. households were cost-burdened in 2017; 47.4% of renters were cost-burdened, compared to 22.5% of homeowners, and renters accounted for 59% of severely cost-burdened households. Alarming, the Annie E. Casey Foundation (2020) reported that 31% of children live in cost-burdened households. Moreover, the National Center for Children in Poverty (NCCP; 2018) reported that of nearly half (48%) of families with children under the age of nine living in low-income households (i.e., household income below 200% of the federal poverty line; Hernández et al., 2016) experienced housing insecurity in 2016, compared to just 6% of above-low income families with young children.

Housing, along with utilities, often comprise families' largest living expenses (Hernández et al., 2016). Furthermore, cost-burdened households who struggle to afford their housing expenses frequently cut costs in other critical areas, including food, health care, transportation, and clothing, and are less financially prepared for unexpected expenses (Pew Charitable Trusts, 2018). Consequently, cost-burdened households with children, in which housing costs account for a third or more of their income, may be unable to adequately meet all their basic needs (Annie E. Casey Foundation, 2020), resulting in substantially less spending on food, transportation, and health care (JCHS, 2019). For example, Pew Charitable Trusts (2018) report that in 2015, a two-parent, one-child, cost-burdened household in which both parents earn the

federal minimum wage would have to navigate the costs of childcare, transportation, food, health insurance, and other expenses with \$250 per week in pretax dollars after paying rent.

Poverty

The U.S. Census Bureau (2019) defines poverty in terms of household income relative to household size; a household is considered poor when its combined income falls below the threshold determined by the federal government as the minimum required to meet the basic needs of a given household size. As Mutchler et al. (2016) observed, the distinction between poverty and economic insecurity is consequential for certain populations, such as households whose income is above the federal poverty level—and therefore too high to qualify for many federal assistance programs—yet too low to achieve or maintain economic security. For example, an estimated 32% of children in the U.S. are living in households with incomes falling within 200% of the federal poverty line (Semega et al., 2019). Thus, individuals who may not objectively qualify as poor may nevertheless have the subjective experience of economic insecurity and struggle to meet basic needs (Semega et al., 2019). Likewise, it is conceivable that a household living beneath the poverty line may not be financially burdened by excessive housing or food costs and therefore evade the subjective experience of economic insecurity. To avoid conflating these constructs, the current study examines economic insecurity and poverty as separate predictors of parental alcohol misuse.

In the U.S., the official 2019 poverty rate was 10.5%; among children, the poverty rate was 14.4% (Semega et al., (2020). Poverty in the U.S. disproportionately impacts non-white households (Barrera et al., 2001; Li et al., 2019; Semega et al., 2020) and is associated with increased risk for poor mental health both for parents and for children experiencing poverty (Lefmann & Combs-Orme, 2014; Mersky et al., 2017; Radey & McWey, 2021). Parenting stress

is one of several mechanisms through which poverty has been shown to negatively impact developmental outcomes (Hyde et al., 2020). Haushofer and Fehr (2014) reported that poverty is an important contributor to stress and negative affect, and the World Health Organization and Calouste Gulbenkian Foundation (2014) noted a global, bidirectional relationship between poverty and mental illness. McDonald et al. (2020) found that stress related to poverty was indirectly associated with higher rates of depressive symptoms among parents through deficits in social support and diminished utilization of effective coping strategies. Depressive symptoms, in turn, have been associated with higher rates of substance misuse among parents (Grant et al., 2011, Palmer et al., 2020).

Summary

Driven by a confluence of economic and social factors impacting households across the income spectrum, approximately one-third of the U.S. population faces difficulty in meeting the financial costs of basic needs, including housing, food, and access to medical care, and up to 44% of all U.S. children live in economically insecure households (Cooper & Pugh, 2020; PolicyLink & PERE, 2018). Economic insecurity and poverty have been identified as significant stressors that, in addition to adversely affecting mental and physical health (Rhode et al., 2016; World Health Organization & Calouste Gulbenkian Foundation, 2014), may have detrimental impacts on the wellbeing of parents (Neppl et al., 2016; Steele et al., 2016). While stress may influence drinking behaviors among the general population (Keyes et al., 2012) as well as among parents (Little et al., 2009; Maloney et al., 2010; Mikolajczak et al., 2020), there remains much to learn about risk factors for parental alcohol misuse.

Economic Insecurity, Poverty, and Substance Misuse

Although there is evidence to support a relationship in between economic insecurity and substance misuse (Bali et al., 2013; Gibbs et al., 2018; Glei & Weinstein, 2019) and between poverty and substance misuse (Henry et al., 2018; Kuo et al., 2011; Logan et al., 2019; Marshall et al., 2019; Sanders et al., 2020), inconsistencies in the literature regarding this relationship, owing perhaps to inadequate exploration of the complex interactions among multiple determinants of substance misuse (Dasgupta et al., 2018), have complicated reaching a general consensus among researchers on the nature of this relationship (Patrick et al., 2012). In a review of epidemiologic literature on substance use and misuse, Galea et al. (2004) similarly note a lack of clarity regarding the association between poverty and substance misuse; although some studies support such a relationship, numerous methodological issues and a prevailing “reliance on linear assumptions” (p.48) throughout much of the epidemiologic literature may overlook the nuances and contextuality of the role of economic insecurity in substance misuse. For example, studies have yielded evidence that interaction between genetic vulnerabilities and environmental stressors over the lifespan may contribute to susceptibility to substance misuse (Hamdi et al., 2015; Rioux et al., 2016; Windle, 2010). Moreover, risk behaviors associated with substance misuse may be shaped by environmental stressors and negative affective states associated with economic insecurity and its correlates (e.g., shortage of community resources, high neighborhood crime rates). Additionally, Galea et al. (2004) highlighted the potential importance of social affiliations, adverse family conditions during childhood, and neighborhood conditions in determining the onset and trajectory of substance use and misuse.

The current study focuses specifically on parental alcohol use for several reasons. First, alcohol use is substantially more common in the U.S. compared to other substances (SAMHSA,

2019). An estimated 139.8 million people used alcohol in 2018, compared to an estimated 53.2 million users of all illicit substances combined. Second, alcohol use disorder is more common than other substance use disorders. According to SAMHSA (2019), an estimated 14.8 million people in the U.S. had an alcohol use disorder in 2018, compared to an estimated 8.1 million people with at least one illicit substance use disorder. Third, alcohol misuse contributes to 18.5% of emergency department visits, 22.1% of prescription opioid-related overdose deaths, and over 100,000 deaths due to impaired driving or chronic health conditions; alcohol is the third-leading preventable cause of death in the U.S., behind tobacco and poor diet and physical inactivity (U.S. Department of Health and Human Services, 2021). Fourth, alcohol is legal, inexpensive, widely accessible, heavily promoted, and socially sanctioned in the U.S., which likely accounts for the prevalence of alcohol misuse (Conner et al., 2016). Finally, alcohol misuse is prevalent among parents, with one in ten children in the U.S. living with at least one parent who has an alcohol use disorder (Lipari & Van Horn, 2017).

Economic Insecurity, Poverty, and Alcohol Misuse

Regarding alcohol misuse specifically, consensus is likewise scarce with regard to the role of economic insecurity and poverty, with limited evidence to support a clear association. Braveman et al. (2017) observed a link between women's economic insecurity and binge drinking during or around the time of pregnancy. In a meta-analysis, Richardson et al. (2013) found that unsecured debt—a marker of poverty—was associated with alcohol misuse.

Altogether, alcohol misuse may have a complex relationship with poverty and economic insecurity, one shaped by multiple factors, including (but not limited to) social disadvantage (Mulia et al., 2008); severe economic loss (Mulia et al., 2014); housing stability (Murphy et al., 2013); income inequality (Karriker-Jaffe et al., 2013); and individual- and community-level

factors (Galea et al., 2007; Haushofer & Fehr, 2014; Karriker-Jaffe et al., 2012; Mulia & Karriker-Jaffe, 2012). Galea et al. (2004) described the role of individual-level factors such as socioeconomic status as “controversial and ill-defined” (p. 48), owing at least in part to inconsistencies among much of the remaining literature. Likewise, one systematic review yielded inconclusive findings regarding the role of community-level social factors (i.e., deprivation, poverty, income, unemployment, social disorder and crime) in alcohol misuse (Bryden et al., 2013).

A study examining the impact of economic insecurity on somatic health following the 2008-2009 recession found that men, but not women, increased their alcohol consumption in order to self-medicate somatic symptoms associated with economic stress. However, economic insecurity (along with neighborhood and life stressors) was found to contribute to alcohol misuse among economically disadvantaged mothers in Northern California; among this sample, problem drinking was mediated by social support (Mulia et al., 2008). Bryden et al. (2013) likewise highlighted the potentially important role of social support, community cohesion, and other indicators of social capital in reducing alcohol consumption. Moreover, economic insecurity following the recession was associated with substantially higher vulnerability to both exposure to loss (e.g., employment, housing security) and alcohol-related problems among Blacks compared to Whites; Latinos were also more vulnerable to loss but did not exhibit significant increases in alcohol consumption (Vijayasiri et al., 2012; Zemore et al., 2013). In another study, social disadvantage (e.g., economic insecurity, discrimination), was associated with increased alcohol misuse for Blacks, Latinos, and Whites; racial and ethnic minority populations reported significantly greater exposure to disadvantage as well as significantly greater risk for alcohol problems (Mulia et al., 2008). Taken together, these studies suggest that a relationship between

economic insecurity and alcohol misuse is likely, but that relationship may be shaped by other personal and structural factors.

Broadly, research on the relationship between poverty/economic insecurity and alcohol use suggest patterns of consumption that violate assumptions of linearity. For example, both short- and long-term histories of low-to-middle income have been linked to both abstinence and heavy alcohol consumption, and to lower odds of light-to-moderate drinking (Cerdá et al., 2011). In addition, whereas economic insecurity has been associated with greater quantities of alcohol consumption, economic advantage has been linked to greater frequency of consumption (Huckle et al., 2010). More recently, Collins (2016) noted that economically advantaged people may consume as much or more alcohol as people experiencing economic insecurity, but the latter experience the brunt of negative alcohol-related outcomes, including injury, disease, legal trouble, and alcohol-related mortality. Even among those experiencing economic insecurity and poverty, a disproportionate share of alcohol-related consequences falls upon marginalized populations, including racial and ethnic minorities and individuals experiencing homelessness.

The highest rates of alcohol consumption have been documented in both the lowest- and the highest-income neighborhoods (Galea et al., 2007). Corroborating evidence comes from a systematic review that found strong evidence that problem drinking, among other types of substance misuse, cluster by geographic area (Karriker-Jaffe, 2011). However, support for an association between area-level economic insecurity and increased alcohol was limited, conflicting, and varied depending on sample demographics, the size of the area examined, and differences in measures and methodology.

Economic insecurity among parents of toddlers is linked to increased parental distress as children advance into preschool (Neppl et al., 2016; Steele et al., 2016); in turn, the depletion of

coping resources likely contributes to increased psychological distress and discord in the family home. Research indicates that stress contributes to increased alcohol consumption (Keyes et al., 2012), and that even among people with histories of alcohol misuse who are currently alcohol-abstinent, stress can induce negative affect-related alcohol cravings predictive of relapse (Sinha et al., 2009). In addition, environmental stressors associated with economic insecurity and poverty (Galea & Vlahov, 2002; Haushofer & Fehr, 2014; Sinha, 2008) may interact with genetic risk factors to increase risk for alcohol misuse among vulnerable individuals (Clarke et al., 2012). In a study of adolescent and emerging adult parents, timing of parenthood impacted alcohol use trajectories; whereas emerging adult parents reduced their alcohol use, adolescent parents showed a net increase in alcohol consumption, specifically among adolescent fathers (Little et al., 2009). The authors of this study speculated that the increased stress of parenthood at a developmentally premature age may be an underlying driver of increased drinking among adolescent fathers, who may turn to alcohol to cope. Finally, although a sample of parents in Australia were observed to be less likely to engage in risky drinking (i.e., heavy and binge drinking) compared to nonparents, single mothers more frequently reported weekly and monthly binge drinking compared to other mothers, and psychological distress—among other factors—was associated with increased risky alcohol consumption (Maloney et al., 2010). However, this study did not include a measure of economic insecurity. Given the relative lack of other data, it is not clear if or to what degree economic insecurity predicts alcohol use among parents.

In summary, the literature on the role of economic insecurity in parental alcohol misuse is marked by inconsistencies, a lack of consensus, and in large degree, scarcity of data. Although some research indicates that such a relationship exists, the nature of that relationship is ostensibly complex and shaped by myriad factors, many of which are poorly understood or

understudied. Furthermore, whereas some studies have produced evidence of a significant, positive relationship between economic insecurity or poverty and alcohol misuse, other studies have produced inconsistent or conflicting findings. Although considerable effort has gone into untangling the manner in which various factors interact and impact different populations, the question of whether, or to what extent, economic insecurity and poverty predict parental alcohol misuse has not been satisfactorily addressed.

The Current Study

The present study investigates whether economic insecurity and poverty predict alcohol misuse among parents living with children under the age of 18. Toward this end, this study draws data from the 2011-2015 Behavioral Risk Factor Surveillance System (BRFSS), a national, population-representative survey coordinated annually by the Centers for Disease Control (CDC) in collaboration with states and U.S. territories. Using these data, this study includes a quantitative analysis of associations using dichotomous and ordinal measures of current economic insecurity, a dichotomous measure of poverty, and dichotomous and continuous measures of alcohol misuse among parents living with children under the age of eighteen. By analyzing data from a large sample, it is hoped that the results of this study will help to clarify statistical relationships between economic insecurity and parental alcohol misuse and between poverty and parental alcohol misuse. Based on findings from previous studies (Cerdá et al., 2011; Grant et al., 2011; Huckle et al., 2010), it is expected that parents who reported recent economic insecurity or poverty are more likely to have reported heavy drinking and binge drinking, compared to parents who did not report recent economic insecurity or poverty.

Chapter 3. Methods

Hypotheses

Based on previous findings, the following were hypothesized:

1. Significant differences in measures of parental alcohol misuse (i.e., binge drinking and heavy alcohol consumption) will emerge between parents reporting recent (i.e., within the past 12 months) economic insecurity and parents not reporting recent economic insecurity on a dichotomous measure thereof (Huckle et al., 2010)
 - a. Parents' degree of economic insecurity will significantly predict the likelihood of reporting binge drinking
 - b. Parents reporting recent economic insecurity will report significantly higher frequency of binge drinking compared to parents not reporting economic insecurity
 - c. Parents' degree of economic insecurity will significantly predict the likelihood of reporting heavy drinking
 - d. Parents reporting recent economic insecurity will report significantly higher amounts of alcohol consumed compared to parents not reporting economic insecurity
2. Significant differences in measures of parental alcohol misuse (i.e., binge drinking and amount of alcohol consumed) will emerge between parents reporting recent (i.e., within the past 12 months) poverty and parents not reporting recent poverty on a dichotomous measure thereof
 - a. Parents reporting recent poverty are significantly more likely to report binge drinking compared to parents not reporting recent poverty

- b. Parents reporting recent poverty will report significantly higher frequency of binge drinking compared to parents not reporting recent poverty
- c. Parents reporting recent poverty are significantly more likely to report heavy drinking compared to parents not reporting recent poverty
- d. Parents reporting recent poverty will report significantly higher amounts of alcohol consumed compared to parents not reporting economic insecurity

Human Subjects Approval

The Institutional Review Board at East Tennessee State University in Johnson City, Tennessee was contacted to determine whether review and approval of this study was warranted. As the BRFSS data contain no personally identifiable information, it was determined that IRB review was not necessary.

Power Analysis

Power analysis was conducted using G*Power statistical software, version 3.1.9.2. This study investigates whether recent economic insecurity or poverty predict patterns of alcohol misuse among parents based on five years of data from a large, representative dataset. Proceeding from an anticipated moderate effect size (f^2) of .30 ($\alpha = .05$), with one dichotomous measure of economic insecurity and one dichotomous measure of poverty as predictor variables to be used in logistic regression, the minimal sample size to achieve statistical power of .95 is 250 total participants. To conduct independent t -tests using dichotomous measures of economic insecurity and poverty, the minimal sample size to achieve statistical power of .95 is 210.

Data and Study Sample

The BRFSS collects data on health behaviors and outcomes, service utilization, and demographics among non-institutionalized adult citizens in all 50 states as well as Washington

D.C. and U.S. territories (i.e., Guam, the U.S. Virgin Islands, and the Commonwealth of Puerto Rico; CDC, 2016). Households are randomly selected to be contacted via mobile phone or landline, and one adult per household is selected for the interview. For the purposes of this study, the sample includes only adults with at least one child under the age of 18 in the household. The 2011-2015 BRFSS questionnaires included an optional module, Social Context, which included two questions about participants' experiences with economic insecurity. Over these five years, a total of 25 states (including Washington D.C.) incorporated the Social Context module into their questionnaires: Nebraska, North Carolina, and Wyoming (2011); Hawaii, Illinois, Michigan, North Carolina, and Tennessee (2012); Alabama, Arkansas, Connecticut, District of Columbia, Georgia, Louisiana, Maine, Minnesota, Nevada, New Mexico, and Virginia (2013); Georgia, Tennessee, Ohio, and Virginia (2014); and Alabama, Arkansas, Delaware, District Of Columbia, Georgia, Louisiana, Minnesota, Mississippi, Missouri, Rhode Island, Tennessee, and Utah (2015). During these five years, the core demographic questions and the optional Social Context questions incorporated into this study were identical. Consequently, it is acceptable for the data to be pooled for robust analysis (Monnat & Chandler, 2015).

Data Preparation

Archived sets of raw BRFSS data, data quality reports, and questionnaires are publicly available for download on the CDC BRFSS website (<https://www.cdc.gov/brfss/index.html>). Datasets from 2011-2015 were downloaded individually using SAS statistical software, version 9.4 (SAS Institute, Cary NC). Since 2011, BRFSS data is weighted the using raking method to account for a wide range of population characteristics. The raking weighting methodology involves two phases, namely design weight to account for overlapping sample frames resulting from the inclusion of cellular phone respondents who also have landlines in their homes, and

stratum weight to account for variability in the probability of selection among geographic strata. Data for states using the Social Context questions—including the final weight assigned to each respondent—were extracted and compiled into new, reweighted data sets for each of the five years, each containing a new and uniform final weight variable. These datasets were then exported to IBM SPSS Statistics for Windows, version 23.0 software (IBM Corporation, Armonk, NY). Slight variations in some variable labels were corrected, and the five datasets were combined into a single dataset containing the consistent weight variable. This variable was derived by a process called raking, or iterative proportional fitting, by which the weight of each case was iteratively adjusted in order to align the sample distribution with that of the population distribution for several variables (i.e., gender by age group, race and ethnicity, gender by race and ethnicity, age group by race and ethnicity, education, marital status, tenure, phone ownership, region, region by age group, region by gender, and region by race and ethnicity). In addition, if any one county contains 500 or more respondents, additional raking variables include county, county by age group, county by gender, and county by race and ethnicity. This final weight variable was applied to weight cases in the combined dataset. This dataset initially contained responses from 305,396 participants. Cleaning to remove nonparents, missing data, and outliers reduced the sample size to 30,745 total respondents (63.3% women).

Measures

General Demographic Information

The BRFSS collects an array of demographic information. Demographic variables include sex, age, race/ethnicity, household size, number of adults in the household, number of children in the household, marital status, and education level.

In the 2011-2013 data age is reported both in years as a continuous variable and in 13 five-year categories terminating in “Age 80 or older.” However, 2014-2015 age data were reported categorically. In each iteration of the survey, age is imputed into six categories (i.e., 18-24; 25-34; 35-44; 45-54; 55-64; and 65 or older). These categories were used to derive descriptive statistics about age.

The number of children in respondents’ households was determined by using responses to a single item in the BRFSS survey: “How many children less than 18 years of age live in your household?” This item was combined with the number of adults in the household to calculate a variable for Total Household Size. Marital status was determined using a single BRFSS survey item in which respondents reported whether they were married, divorced, widowed, separated, never married, or a member of an unmarried couple. Another survey item was used to determine education level (i.e., “What is the highest grade or year of school you completed?”). Responses to this item included Never attended school or only kindergarten; Grades 1 through 8 (Elementary); Grades 9-11 (Some high school); Grade 12 or GED (High school graduate); College 1-3 years (Some college or technical school); and College 4 years or more (College graduate).

Alcohol Misuse

This study utilizes measures of two aspects of alcohol misuse, namely binge drinking (i.e., dichotomous: binge drinking/no binge drinking, and continuous: days binge drinking during the past 30 days) and heavy alcohol consumption (i.e., dichotomous: heavy alcohol consumption/no heavy alcohol consumption, and continuous: number of drinks per day during the past 30 days). In the BRFSS questionnaire, a standard serving of alcohol is defined as equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. Binge

drinking is defined as consuming 5 or more (for men) or 4 or more (for women) standard servings of alcohol on any one occasion. The BRFSS questionnaire asks participants to report the number of times they binge drank over the past 30 days; responses to this item are continuous. This definition of binge drinking is endorsed by the National Institute on Alcohol Abuse and Alcoholism (NIAAA; n.d.) and has been used in previous research (Cutuli et al., 2017; Font & Maguire-Jack, 2016). Cutuli et al. (2017) included this measure of binge drinking in a 10-factor index of cumulative developmental risk associated both with ACEs and adult homelessness. Likewise, Font and Maguire-Jack (2016) employed this measure of binge drinking as one of five health risks in adulthood associated with adverse childhood experiences.

Heavy alcohol consumption is defined in the BRFSS for men as consuming an average of two or more drinks per day, or one or more drink per day for women over a one-month time period. In the BRFSS, a dichotomous variable for heavy alcohol consumption is calculated by multiplying respondents reported number of drinking days (i.e., number of days during which alcohol is consumed) by the average number of alcoholic beverages consumed on drinking days. The first item asks, “During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?” Responses to this item are continuous. The second item asks, “During the past 30 days, on the days when you drank, about how many drinks did you drink on the average?” Responses to this item are also continuous. Multiplying these two items yields an index of quantity-frequency (QF), or total volume consumed within the specified 30 days (Sobell et al., 2000). From this index can be derived quantity of “heavy” drinking, the threshold for which is an average of two or more drinks per day for men, or one or more drinks per day for women (Cutuli et al., 2017). While the subject of criticism for its inability to capture fluctuations in drinking patterns, Sobell

et al. (2000) report that this and similar QF measures are widely used and generally reliable and valid, if imperfect.

For the purposes of this study, an additional dichotomous variable of binge drinking was derived using the binge drinking continuous measure. Respondents who reported at least one instance of binge drinking in the previous 30 days were rated as binge drinkers. In addition, a continuous variable for quantity of heavy alcohol consumption was derived. For respondents who were rated as heavy drinkers in the BRFSS, this variable includes their number of drinking days; respondents not rated as heavy drinkers were assigned a value of zero for the quantity of heavy alcohol consumption variable.

Economic Insecurity

Consistent with previous research, economic insecurity is conceptualized in the present study in terms of households' ability to meet the financial costs of basic needs, including housing and food (Breiding et al., 2017; Conrad et al., 2019; Fedina et al., 2020; Rios, & Zautra, 2011). Accordingly, economic insecurity was assessed using two items on the optional 2011-2015 BRFSS Social Context module. The first item asks, "How often in the past 12 months would you say you were worried or stressed about having enough money to pay your rent/mortgage?" The second item asks, "How often in the past 12 months would you say you were worried or stressed about having enough money to buy nutritious meals?" In the BRFSS, these two items are both coded on a 5-point ordinal scale (i.e., 1 = Always; 2 = Usually; 3 = Sometimes; 4 = Rarely; and 5 = Never). These items were summed to create a continuous measure of economic insecurity with lower numbers indicating greater economic insecurity. These items were also used to create a dichotomized composite variable. If, on either item (i.e., housing, food), the individual chose any

response other than “Never,” “Don’t know/Not sure,” or “Refused,” they were rated as having experienced economic insecurity within the past year.

Poverty

Poverty is measured by comparing household size with total household income. Crouch et al. (2019) reasoned that indicator such as poverty or income level are “not completely colinear” with economic insecurity, but “measure different things. Federal poverty level is an absolute measure of poverty based on household income and size" (pp. 212-213), whereas difficulty with covering basics like food and housing more accurately defines economic insecurity. This assessment recalls Barrera et al. (2001), who noted the inadequacy of objective measures to fully account for the psychological experience, distress, and detrimental outcomes associated with economic insecurity. Because poverty is a construct distinct from economic insecurity, this study employed a measurement of poverty derived from BRFSS data, including household size and imputed household income.

Household size was determined by calculating a new variable containing the sum of two BRFSS items, namely Number of Adults in Household and Number of Children in Household (Hest, 2019). The BRFSS does not include a measure for poverty. Rather, it treats household income as a categorical variable with eight levels (i.e., >\$10,000; \$10,000-\$14,999; \$15,000-\$19,999; \$20,000-\$24,999; \$25,000-\$34,999; \$35,000-\$49,999; \$50,000-\$74,999; and \$75,000 or more). This created some complication in terms of comparing income to household size, particularly as spread increases among higher BRFSS income levels. For example, if a household size of five or six ($n = 7,969$) endorsed income category 5 (i.e., \$25,000-\$34,000; $n=2,060$), they may or may not be classified as having lived in poverty depending on where their actual income falls within that category. Moreover, the federal poverty level changes from year to year. For

example, the 2011 poverty line for a household of two was \$14,710; the same line for 2015 was \$15,930 (HHS, 2021). Assuming income stability, the same household may or may not be determined as poor depending on when their data were collected.

To address this complication, a poverty level methodology was utilized, which involved calculating imputed income. This methodology was based on one described in detail by Hest (2019) and utilized in population health research (Hawai'i Health Data Warehouse, n.d.). Hest (2019) compared different methods for assigning continuous income to BRFSS respondents, including lower bound of each income level, the upper bound of each income level, and the midpoint of each income level. Whereas the lower bound method could potentially artificially inflate poverty rates within a sample, the upper bound method skews income distribution toward higher levels. The midpoint method performs well in terms of reflecting income distribution without substantially inflating or deflating poverty rates (Hest, 2019). Accordingly, for each year of BRFSS survey data, the midpoint of each income category was calculated. The income categories were then recoded into a new imputed income variable using the obtained income midpoints. For example, if a respondent reported income between \$0-\$10,000, their imputed income was coded as \$5,000. Because there is no upper bound for the highest income level (i.e., above \$75,000), an artificial upper bound of \$100,000 to match the next lowest income level (i.e., \$50,000-\$74,999; Hest 2019). Next, a categorical poverty variable was calculated for each year of BRFSS survey data by assigning values to respondents (i.e., 1 = No; 2 = Yes) based on the calculated household size and imputed income variables compared to the federal poverty line for that particular year. That is, respondents were assigned a value of 2 if their imputed household income was below the federal poverty line for their household size in the year in which their data was collected. For example, the 2014 poverty line for a household of four was

\$23,850. If their imputed income was \$22,500, that household was determined to be living in poverty.

In Table 1 is a summary description of the variables.

Table 1

Summary Description of Variables Used

Scales	Number of Items	Item Examples and Response Options
General Demographics	8	Indicate sex of the respondent (1 = Male; 2 = Female); Computed race-ethnicity grouping (1 = White only, non-Hispanic; 2 = Black only, non-Hispanic; 3 = American Indian or Alaskan Native only, non-Hispanic; 4 = Asian only, non-Hispanic; 5 = Native Hawaiian or other Pacific Islander only, non-Hispanic; 6 = Other race only, non-Hispanic; 7 = Multiracial, non-Hispanic; 8 = Hispanic); Imputed age in six groups (1 = Age 18-24; 2 = Age 25-34; 3 = Age 35-44; 4 = Age 45-54; 5 = Age 55-64; 6 = Age >= 65); Marital Status (1 = Married; 2 = Divorced; 3 = Widowed; 4 = Separated; 5 = Never married; 6 = A member of an unmarried couple); What is the highest grade or year of school you completed? (1 = Never attended school or only kindergarten; 2 = Grades 1 through 8; 3 = Grades 9 through 11; 4 = Grade 12 or GED; 5 = College 1 year to 3 years; 6 = College 4 years or more); Number of adults in the household (continuous) Number of children in the household (continuous);

Binge Drinking, continuous	1	Household size (calculated variable: sum of adults and children in household) Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 or more (men) or 4 or more (women) drinks on an occasion?
Binge Drinking, categorical	1	Reported at least one instance of binge drinking in the past 30 days (1 = No; 2 = Yes)
Heavy Alcohol Consumption, categorical	1	Adult men having more than two drinks per day and adult women having more than one drink per day in the past 30 days (1 = No; 2 = Yes)
Heavy Alcohol Consumption, continuous	1	Average number of drinks per day over the past 30 days)
Economic Insecurity, categorical	1	Respondent reported having experienced at least at least one of two forms of economic hardship (i.e., housing insecurity and/or food insecurity) in the past 12 months (1 = No; 2 = Yes)
Economic Insecurity, continuous		Respondents' answers to items assessing housing and food insecurity (i.e., "How often in the past 12 months would you say you were worried or stressed about having enough money to pay your rent/mortgage?" and "How often in the past 12 months would you say you were worried or stressed about having enough money to buy nutritious meals?") were coded on a 5-point ordinal scale (i.e., 1 = Always; 2 = Usually; 3 = Sometimes; 4 = Rarely; and 5 = Never). These items were summed to create a continuous measure of economic insecurity

		ranging from 2-10, with lower numbers indicating greater economic insecurity.
Poverty	1	Variable calculated from household size and imputed income; yes responses indicate imputed income below federal poverty line for household size (1 = No; 2 = Yes)

Statistical Analyses

The statistical analyses were conducted with IBM SPSS Statistics for Windows, version 23.0 software (IBM Corporation, Armonk, NY). *P*-values less than or equal to 0.05 were considered statistically significant. Linear regression was initially considered to assess whether a economic insecurity predicted parental alcohol misuse. Ultimately, logistic regression was chosen, and a continuous measure of economic insecurity was used as a predictor in order to increase power to detect an effect. This decision was guided by the public health perspective from which this study was approached and the intention to convey findings on risk in terms of odds ratios to a public health audience.

Testing Hypothesis 1

Logistic regression was used to assess whether a continuous measure of economic insecurity predicted the presence of parental binge drinking in the past 30 days. Logistic regression was also used to assess whether the continuous measure of economic insecurity in the past 12 months predicted the presence of parental heavy alcohol consumption in the past 30 days. Bivariate correlations between alcohol consumption (dichotomous heavy drinking versus no heavy drinking; continuous alcohol consumed), economic insecurity variables, and demographic variables were evaluated. Independent samples *t*-tests, two-tailed, were used to assess differences in means of continuous measures of alcohol misuse (i.e., number of days out of the past 30 in

which respondents engaged in binge drinking, amount of alcohol consumed) based on whether parents responding to the BFRSS endorsed economic insecurity.

Testing Hypothesis 2

Logistic regression was used to assess whether a dichotomous measure of poverty predicted the presence of parental binge drinking in the past 30 days. Logistic regression was also used to assess whether poverty in the past 12 months predicted the presence of parental heavy alcohol consumption in the past 30 days. Bivariate correlations between alcohol consumption (i.e., heavy alcohol consumption versus no heavy alcohol consumption; amount of alcohol consumed), presence of poverty, and demographic variables were evaluated. Although no demographic variables correlated with alcohol consumption, variables that are conventionally thought to relate to heavy alcohol consumption such as sex (Iwamoto, Corbin, Lejuez, & MacPherson, 2014), age (Veerbeek et al., 2019), race/ethnicity (Keyes et al., 2015; Witbrodt, Mulia, Zeng, & Kerr, 2014), and marital status (Dinescu et al., 2016) were included as covariates in a third regression model. Independent samples *t*-tests, two-tailed, were used to assess differences in means of continuous measures of alcohol misuse (i.e., number of days out of the past 30 in which respondents engaged in binge drinking; amount of alcohol consumed) based on whether parents responding to the BFRSS endorsed poverty.

Chapter 4. Results

Univariate Statistics

Data from a total of 30,745 BRFSS adult respondents who reported that they lived with at least one child under the age of 18 living in the household were analyzed for this study.

Collectively responses clustered in the ranges of 35-44 (37.1%) and 45-54 (30.5%) years, followed by 25-34 (15.7%), years 55-64 (10.4%) years, 65 or older (4.2%), and 18-24 (2.1%) years. In the current sample, 74.7% participants identified as White, followed in frequency by African American (12.4%), Hispanic (6.3%), Asian (2.2%), Multiracial (1.9%), American Indian or Alaskan Native (1.8%), Other (0.5%), and Native Hawaiian or Pacific Islander (0.2%).

Household sizes ranged from two to eight, with a mode and median of four. The number of adults per in the household ranged from one to four, with a mode and median of 2. The number of children in the household ranged from 1 to 5, with a mode of one and a median of three. In this sample, 74.1% of respondents reported being married; 10.0% reported being divorced, followed by 7.8% who identified as never married. Widows accounted for 3.3% of this sample, followed by 2.7% who identified as separated and 2.1% who belonged to a nonmarried couple. In terms of education, 46.7% of respondents identified as college graduates. Another 26.4% reported having attended some college, and 21.1% reported graduating from high school or obtaining a GED. Additionally, 4.1% reported attending some high school, and 1.5% reported completing elementary school. Only 0.1% reported never attending school or attending only kindergarten.

Demographic characteristics are summarized in Table 2.

Table 2*Sample Demographics of Respondents*

Characteristic	<i>n</i>	%
Gender		
Female	19,465	63.3
Male	11,280	36.7
Age		
18-24	649	2.1
25-34	4,824	15.7
35-44	11,401	31.1
45-54	9,382	30.5
55-64	3,197	10.4
≥65	1,292	4.2
Race/Ethnicity		
White only, non-Hispanic	22,963	74.7
Black only, non-Hispanic	3,824	12.4
American Indian or Alaskan Native only, non-Hispanic	545	1.8
Asian only, non-Hispanic	665	2.2
Native Hawaiian or other Pacific Islander only, non-Hispanic	72	0.2
Other race only, non-Hispanic	167	0.5
Multiracial, non-Hispanic	583	1.9
Hispanic	1,926	6.3
Number of adults in the household		
1	5,310	17.3

2	20,023	65.1
3	4,272	13.9
4	1,140	3.7
Number of children in the household		
1	12,078	39.3
2	11,514	37.4
3	5,017	16.3
4	1,682	5.5
5	454	1.5
Total household size		
2	2,515	8.2
3	8,349	27.2
4	11,345	36.9
5	5,649	18.4
6	2,131	6.9
7	649	2.1
8	107	.03
Education		
Never attended school or only kindergarten	31	.01
Grades 1 through 8	462	1.5
Grades 9-11	1,254	4.1
Grade 12 or GED	6,502	21.1
College 1 year to 3 years	8,130	26.4
College 4 years or more	14,366	46.7

Marital Status

Married	22,780	74.1
Divorced	3,075	10.0
Widowed	1,013	3.3
Separated	830	2.7
Never married	2,406	7.8
A member of an unmarried couple	641	2.1

Note. N = 30,745.

^aIndicates percent of baseline characteristic endorsing variable

Of interest in this study, participants responded to items about their experiences of housing and food insecurity over the past twelve months. In this sample, 58.2% ($n = 17,882$) of respondents reported experiencing economic insecurity (i.e., housing and/or food insecurity) at least once in the previous 12 months; 16,599 (54.0%) reported housing insecurity, and 11,943 (38.8%) reported food insecurity. In addition, 15.5% ($n = 4,755$) experienced poverty.

Participants also responded to items about alcohol consumption. In this sample, 15.7% ($n = 4,827$) of respondents in this sample reported at least one instance of binge drinking in the previous 30 days, and 4.6% ($n = 1,418$) reported heavy alcohol consumption over the previous 30 days. Among participants categorized as binge drinkers, the mean number of binge drinking occasions was 3 ($SD = 4.69$) with a mode of 1. For participants categorized as heavy drinkers, the mean number of heavy drinking days was 20.49 ($SD = 8.09$) with a mode of 30.

Bivariate Correlations

Bivariate correlations among all predictors, outcomes, and demographics were evaluated. Correlations are presented in Table 3.

Table 3*Correlation Matrix*

Observed Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Economic insecurity	1	-	-	-	-	-	-	-	-	-	-	-	-
2 Housing insecurity	.910**	-	-	-	-	-	-	-	-	-	-	-	-
3 Food insecurity	.688**	.568**	-	-	-	-	-	-	-	-	-	-	-
4 Poverty	.251**	.239**	.315**	-	-	-	-	-	-	-	-	-	-
5 Binge drinking	-.002	.003	-.024**	-.072**	-	-	-	-	-	-	-	-	-
6 Binge drinking frequency	.011**	.018**	-.008	-.017**	.541**	-	-	-	-	-	-	-	-
7 Heavy drinking	-.008	-.004	-.013**	-.044**	.362**	.497**	-	-	-	-	-	-	-
8 Alcohol consumed	-.012**	-.005	-.022**	-.043**	.336**	.524**	.928**	-	-	-	-	-	-
9 Sex	.132**	.100**	.166**	.137**	-.169**	-.129**	-.025**	-.046**	-	-	-	-	-
10 Age	-.065**	-.058**	-.071**	-.031**	-.083**	-.035**	-.002	.010*	-.075**	-	-	-	-
11 Adults in the household	-.055**	-.059**	-.058	-.002	-.019**	-.002	-.013**	-.007	-.103**	.079**	-	-	-
12 Children in the household	.051**	.038**	.075**	.154**	-.003	-.002	-.024**	-.026**	-.003	-.227**	-.036**	-	-
13 Total household size	.009*	-.004	.027**	.125**	-.014**	-.003	-.028**	-.025**	-.065**	-.140**	.571**	.800**	-
14 Education level	-.255**	-.232**	-.287**	-.438**	.017**	-.007	.014**	.026**	-.030**	-.001**	-.042**	-.058**	-.073**

** Significance at the $p \leq .01$ level. *Significance at the $p \leq .05$ level.

Most of the associations between variables appear to be significant, but that is likely due to the large size of this sample. Judging by the size of the coefficients, most of these associations appear to be negligible, weak, or moderate at best. Housing insecurity was strongly related to economic insecurity, which was expected given that over half of all respondents reported at least some experience of housing insecurity within the past year. Food insecurity was moderately related to economic insecurity, and a weak association was found for poverty and economic insecurity. Education was likewise weakly related to economic insecurity but was moderately related to poverty. Housing and food insecurity were moderately related to one another; both were weakly associated with poverty. Dichotomous and continuous measures of parental alcohol misuse were not related to economic insecurity or poverty. Finally, of the demographics tested, relationships with measures of parental alcohol were negligible.

Scatterplots between the continuous measures of economic insecurity and parental alcohol misuse (i.e., binge drinking and amount of alcohol consumed) were examined to determine whether significant correlations between variables were identifiably linear or curvilinear. There does not appear to be a linear or curvilinear relationship between the degree to which respondents reported economic insecurity and either measure of alcohol misuse.

Hypothesis Testing

Logistic regression, independent *t*-tests, and were used to test hypotheses. Results are summarized below.

Hypothesis 1

Occurrence of Economic Insecurity and Alcohol Misuse

Logistic regression was used to assess whether a continuous measure of economic insecurity (i.e., how often respondents reported housing insecurity and/or food insecurity in the

past 12 months) predicted parental binge drinking, and whether economic insecurity predicted parental heavy alcohol consumption within the past 30 days in parents living with at least one child under the age of 18. These results are summarized in Table 4.

Table 4

Logistic Regression: Economic Insecurity as a Predictor of Parental Alcohol Misuse

Predictor	<i>n</i>	Binge Drinking OR (95% CI)	Heavy Alcohol Consumption OR (95% CI)
Economic Insecurity	30,745	1.007 (.997 - 1.018)	.997 (.979 - 1.016)

Two logistic regression models, one for each measure of parental alcohol misuse, were performed to investigate the ability of economic insecurity in the past 12 months to predict parental alcohol misuse in the past 30 days. Both models included economic insecurity as the sole predictor. Analysis revealed that economic insecurity did not significantly predict parental binge drinking $\chi^2(1) = 1.824, p = .178$. Recall that the continuous measure of economic insecurity was coded such that higher numbers indicate less economic insecurity. The results of this analysis indicate that the odds of parental binge drinking increased by approximately 0.7% with each increase in value of economic security. Put another way, for each decrease in value of economic insecurity, there was a negligible increase in the odds of parental binge drinking. Likewise, economic insecurity did not predict heavy alcohol consumption $\chi^2(1) = .085, p = .770$. The results of this analysis indicate that the odds of parental heavy alcohol consumption decreased by approximately 0.3% for each decrease in the value of economic insecurity.

Economic Insecurity and Frequency of Alcohol Misuse

Independent samples *t*-tests were used to assess whether a dichotomous measure of economic insecurity (composite of housing insecurity and food insecurity) predicted frequency of parental alcohol misuse in continuous measures of binge drinking and heavy alcohol consumption.

In the *t*-test for the continuous measure of binge drinking, Levene's test rejected null hypotheses of equal variance between groups ($F = 25.254, p < .001$). Accordingly, an adjusted iteration of the independent samples *t*-test was chosen in which the assumption of equal variances was relaxed. Hedges' *g* was calculated to determine effect size. Compared to participants who did not report economic insecurity, participants who reported at least one experience of economic insecurity in the past 12 months reported a significantly higher rate of binge drinking occasions, $t(50,358.33) = 2.675, p = .006$. However, a very small effect size was found ($g = .023, 95\%, -.040 -.006$).

Regarding frequency of heavy alcohol consumption, Levene's test rejected null hypotheses of equal variance between groups ($F = 34.632, p < .001$). Accordingly, an adjusted iteration of the independent samples *t*-test was chosen in which this assumption was relaxed. Hedges' *g* was calculated to determine effect size. Compared to respondents who did not report economic insecurity in the past 12 months, respondents who experienced economic insecurity in the past 12 months had a significantly lower number of heavy drinking days, $t(44,918.29) = 2.883, p = .004$. However, the effect size for this test was very small ($g = .025, 95\% \text{ CI } .008 - .043$).

Hypothesis 2

Occurrence of Poverty and Alcohol Misuse

Logistic regression was used to assess whether a dichotomous measure of poverty (i.e., respondent's yearly household income fell beneath the federal poverty line during the past 12 months) predicted parental binge drinking, and whether poverty predicted parental heavy alcohol consumption within the past 30 days in parents living with at least one child under the age of 18. These results are summarized in Table 5.

Table 5

Logistic Regression: Poverty as a Predictor of Parental Alcohol Misuse

Predictor	<i>n</i>	Binge Drinking OR (95% CI)	Heavy Alcohol Consumption OR (95% CI)
Poverty	30,745	.564 (.527 - .603)**	.508 (.446 - .579)**

** Significance at the $p \leq .01$ level.

Two logistic regression models, one for each measure of parental alcohol misuse, were performed to investigate the ability of poverty in the past 12 months to predict parental alcohol misuse in the past 30 days. Both models included poverty as the sole predictor. In both models, *no poverty* was the reference group. Analysis revealed that poverty significantly and negatively predicted parental binge drinking $\chi^2(1) = 280.121, p < .001$. Respondents whose income was below the federal poverty line were 43.6% less likely to report binge drinking. Likewise, poverty significantly and negatively predicted heavy alcohol consumption $\chi^2(1) = 103.486, p < .001$. Respondents who experienced poverty in the past 12 months were 49.2% less likely to report engaging in heavy alcohol consumption.

A third model tested the ability of poverty to predict parental heavy alcohol consumption and included *sex, age, race/ethnicity, and marital status*. Reference groups included women for *sex*, 18–24-year-olds for *age*, White respondents for *race/ethnicity*, and married respondents for *marital status*. As summarized in Table 6, this model indicated that poverty significantly predicted parental heavy alcohol consumption in the past 30 days when controlling for sex, age, race/ethnicity, and marital status $\chi^2(1) = 43.153, p < .001$. Analysis revealed that men who experienced poverty in the past 12 months were significantly more likely than women to engage in heavy alcohol consumption (OR 1.248; 95% CI 1.142 - 1.363; $p < .001$). Compared to the 18-24 age group, differences in heavy alcohol consumption emerged only for respondents aged 65 and older, who were significantly less likely to engage in heavy alcohol consumption (OR .455; 95% CI .294 - .704; $p < .001$). In addition, Black, American Indian or Alaskan Native, Asian, and Hispanic respondents were significantly less likely to engage in heavy alcohol consumption compared to White respondents. Finally, compared to married respondents, respondents with other marital statuses were significantly more likely to engage in heavy alcohol consumption with the exception of those categorized as widowed.

Table 6

Logistic Regression for Poverty and Parental Heavy Alcohol Consumption with Covariates

Characteristics	Heavy Alcohol Consumption ^a OR (95% CI)
Poverty (no poverty as referent)	.619 (.536 - .714)***
Sex (Male)	1.248 (1.142 - 1.363) ***
Age (18-24 as referent)	
Age 25-34	.908 (.661 - 1.247)
Age 35-44	1.088 (.800 - 1.481)

Age 45-54	1.098 (.805 - 1.499)
Age 55-64	.806 (.577 - 1.126)
Age \geq 65	.455 (.294 - .704) ***
Race/Ethnicity (White as referent)	
Black	.647 (.558 - .751) ***
American Indian/Alaskan Native	.466 (.332 - .653) ***
Asian	.377 (.257 - .553) ***
Native Hawaiian or other Pacific Islander	.292 (.072 - 1.184)
Other race	1.408 (.966 - 2.054)
Multiracial	1.055 (.834 - 1.335)
Hispanic	.408 (.343 - .487) ***
Marital Status (married as referent)	
Divorced	1.567 (1.370 - 1.792) ***
Widowed	1.160 (.856 - 1.574)
Separated	1.658 (1.308 - 2.101) ***
Never married	1.475 (1.234 - 1.762) ***
Member of an unmarried couple	1.342 (1.016 - 1.773) *
<hr/>	
Range explained variance (Cox and Snell R^2 - Nagelkerke R^2)	.8% - 2.7%

Note: ^aFull model $\chi^2(1) = 43.153, p < .001$. *** Significance at the $p \leq .001$ level.

** Significance at the $p \leq .01$ level. *Significance at the $p \leq .05$ level.

Poverty and Frequency of Alcohol Misuse

Independent samples *t*-tests were used to assess whether a parental alcohol use (number of binge drinking days and amount of alcohol consumed) differed by whether a parent was classified as being in poverty (i.e., household income falling beneath federal poverty line). In the

t-test for binge drinking frequency, Levene's test rejected null hypotheses of equal variance between groups ($F = 14.758, p < .001$). Accordingly, an adjusted iteration of the independent samples *t*-test was chosen in which the assumption of equal variances was relaxed. Hedges' *g* was calculated to determine effect size. Compared to participants who did not experience poverty, participants whose household income fell beneath the federal poverty line in the past 12 months reported significantly fewer binge drinking occasions, $t(17,917.720) = 3.524, p < .001$. However, a very small effect size was found ($g = .037, 95\%, -.017 - .058$).

Regarding alcohol consumption, Levene's test rejected null hypotheses of equal variance between groups ($F = 425.389, p < .001$). Accordingly, an adjusted iteration of the independent samples *t*-test was chosen in which this assumption was relaxed. Hedges' *g* was calculated to determine effect size. Compared to respondents who did not experience poverty, respondents whose household income fell beneath the federal poverty line in the past 12 months drank significantly less, $t(24,590.731) = 12.334, p < .001$. A small effect size was found for this test ($g = .107, 95\% \text{ CI } .086 - .127$).

Chapter 5. Discussion

Alcohol misuse is a prevalent and complex issue in the United States that is estimated to impact more than 10% of children under the age of 18 (Lipari & Van Horn, 2017). Broadly, stress has been identified as an important potential factor in drinking behaviors in the general population (Keys et al., 2012), and specifically among parents (Mikolajczak et al., 2020; Little et al., 2009). Moreover, economic insecurity (Fedina et al., 2020) and poverty (Rohde et al., 2016; Lefmann & Combs-Orme, 2014) have both been identified as significant stressors, particularly among parents (Neppl et al., 2016; Steele et al., 2016). Although parental alcohol misuse is associated with numerous risks for children in the household (Cox et al., 2018; Dakil et al., 2012; Dube et al., 2001; Jennison, 2014; Lloyd & Kepple, 2017; Omkarappa et al., 2019), research on parental alcohol misuse has to date focused chiefly on the outcomes thereof, while comparatively few studies have investigated factors that may predict parental alcohol misuse. Accordingly, this study has investigated whether measures of economic insecurity and poverty predicted alcohol misuse among a large sample of parents living with at least one child under the age of 18 drawn from five years of Behavioral Risk Factor Surveillance System (BRFSS) data.

Hypothesis Testing

Univariate Statistics

This study features a large sample of primarily white parents, the majority of which were women. The average household size was four, and respondent age clustered between 35 and 54. Most respondents were married, and nearly half of respondents completed college.

Economic Insecurity and Poverty

In this sample, over half of all respondents reported at least one form of economic insecurity within the past 12 months. Poverty was less common in this sample. Over half of the

women in this study, as well as over half of the men, reported economic insecurity as operationally defined in the study (i.e., having experienced either housing or food insecurity at any time over the past 12 months). Bivariate correlation analysis indicated that poverty was very weakly related to the combined measure of economic insecurity and to housing insecurity, and was somewhat less weakly related to food insecurity. These correlations were weaker than expected, as previous research has described economic insecurity and poverty as functionally distinct constructs (Barrera et al., 2001; Crouch et al., 2019; Mutchler & Xu, 2016) that are nevertheless intimately linked in terms of contributing and reinforcing factors, outcomes, and global impact (Coloma & Pino, 2016; Jiménez, 2021). In the current study, the threshold for economic insecurity included “rarely” experiencing uncertainty about affording housing or nutritious food in the past 12 months. In retrospect, this definition was likely too lenient and over-identified respondents as economically insecure. It is possible, if not likely, that a more stringent operational definition of economic insecurity in the current study would have strengthened the statistical association between economic insecurity and poverty. Moreover, a more stringent definition of economic insecurity would have improved the precision of analyses overall.

Of the two specific measures of economic hardship used in this study, housing insecurity was the more prevalent measure, with over half of all respondents reporting at least some difficulty meeting the costs of housing over the past 12 months. Women were disproportionately impacted compared to men in this sample. Food insecurity, while less prevalent in this sample compared to housing insecurity, was still common. Women were also more likely than men to report food insecurity. Similarly, poverty was more common among women compared to men. The greater likelihood of mothers in this sample to report economic insecurity and poverty is

consistent with previous research indicating that women who are transitioning into parenthood are more likely than men to leave the workforce or work fewer paid hours (Killewald & García-Mangano, 2016). Moreover, research has indicated that the wages paid to employed mothers are approximately 5% less per child compared to nonmothers, likely due to a combination of gaps in employment, lower educational attainment, and employer discrimination (Staff & Mortimer, 2011). In addition, there is evidence that motherhood is associated with employment bias and workplace disadvantage. For example, Heilman and Okimoto (2008) reported results from two studies which found that motherhood was a hindrance to women's career advancement due to employers' lower anticipated competence and heightened association with gender stereotypes when job applicants were mothers. Finally, although the present study did not differentiate between single-parent households and households in which more than one caregiver was available, it seems important to note that single mothers head 80% of single-parent households (U.S. Census Bureau, 2020), often shouldering the considerable economic costs of raising children (Lino et al., 2017) while attempting to balance the dual stressors of financial strain and work-life balance (Van Gasse & Mortelmans, 2020).

Economic insecurity was prevalent across age ranges but was more common in younger age groups. Housing and food insecurity were similarly distributed. In contrast, poverty was highest among youngest and oldest age groups, and was lowest among the middle age groups. This pattern was expectable, given that people between the ages of 25 and 54 comprise the majority of the labor force in the United States (U.S. Bureau of Labor Statistics, n.d.). However, the age distribution of the labor force in the U.S. is changing as the labor force ages. In 1999, workers aged 55 or older made up 12.7% of the labor force. By 2029, that age group is projected to account for 25.2% of the labor force as the proportion of younger workers steadily declines

(U.S. Bureau of Labor Statistics, n.d.), raising questions about what future distributions of economic insecurity and poverty across age groups may look like.

With the exception of Asian respondents, economic insecurity was more prevalent in non-White populations compared to White respondents, particularly among American Indian or Alaskan Natives, Native-Hawaiian or other Pacific Islanders, Hispanic respondents, and Black respondents. A similar trend emerged for housing insecurity, with lower rates among Asian and White respondents, and higher rates among Native Hawaiian or other Pacific Islanders, Hispanic respondents, Black respondents, and American Indian or Alaskan Natives. Similarly, food insecurity was not as common for Asian and White respondents compared to Hispanic respondents, American Indian or Alaskan Natives, Native Hawaiian or other Pacific Islanders, and Black respondents. Poverty was highest among Hispanic, American Indian or Alaskan Native, Black, and Native Hawaiian or other Pacific Islander respondents, compared to White and Asian respondents. The long history in the U.S. of racial and ethnic disparities in economic insecurity and poverty is well documented in previous research (Balistreri, 2016; Hernandez et al., 2017; Odoms-Young & Bruce, 2018); the racial and ethnic distribution of economic insecurity and poverty among this sample is no exception.

Across measures of economic insecurity as well as poverty, education appeared to be a protective factor, with rates peaking among those who did not complete high school or obtain a GED and decreasing over higher levels of education. This is consistent with research that has identified education as a protective factor against economic insecurity and poverty (Pascoe et al., 2016). However, one cross-sectional study drawing data from the National Survey of Children's Health, found that higher levels of education was more protective against poverty for White families than for Black families (Assari, 2018). Marriage, in this sample, also appears to have

been protective against measures of economic insecurity as well as poverty, with those who are married and presumably cohabitating ranking lowest in insecurity and poverty compared to those reporting other relationship statuses. Often this is due to the presence of two incomes and one rent or mortgage bill (Shafer & James, 2013).

Alcohol Misuse

Binge drinking was substantially more prominent among male respondents compared to women in this sample. To a lesser degree, heavy alcohol consumption was also more prominent among men compared to women. Gender differences in alcohol misuse in this sample are consistent with previous research indicating that men tend to engage in more problematic drinking behavior than do women (Elliott, 2013; Erol & Karpyak, 2015; Moore et al., 2005). Across age groups, binge drinking increased between the 18-24 and 35-44 age groups, followed by a steady decline and a sharp drop from those aged 45-54 to those aged 55-64. Comparatively few respondents aged 65 or older reported binge drinking. Similarly, heavy alcohol consumption increased marginally from similar rates among in the younger age groups, peaked among respondents in the 45-54 age group, then declined among older respondents. Previous studies have noted similar patterns of use across age groups, with alcohol use and misuse concentrating among younger age groups, particularly college-aged adults, and declining among older adults (Merrill et al., 2014; Moore, 2005; Shaw et al., 2010). Recently, Patrick et al. (2019) reported findings from four decades of longitudinal data indicating that the peak age of binge drinking prevalence has been increasing since 1976 from age 20 to ages 25-26. It is not clear whether patterns of alcohol misuse across age groups have been empirically established specifically for parents.

Binge drinking rates were highest among respondents categorized as Other, followed by White and American Indian or Alaskan Native respondents. Other race, Native Hawaiian or other Pacific Islander, Multiracial and White, and respondents were most likely to report heavy alcohol consumption, with lowest rates among Hispanic and Asian respondents. Research has shown little support for significant differences for racial or ethnic differences in heavy alcohol consumption over the lifespan but has indicated that racial and ethnic patterns of use are complex, and that compared to Whites, racial and ethnic minorities in the U.S. are disproportionately impacted by alcohol-related problems (Mulia et al., 2017).

Binge drinking appeared to be more prevalent among respondents who completed grade 12 or obtained a GED, followed by those who attended some college, and who attended four or more years of college. Respondents who never attended school or only attended kindergarten, who only attended grades 1-8, and who attended grades 9-11 had the lowest rates of binge drinking. Heavy alcohol consumption rates were highest among respondents who graduated high school or obtained a GED, followed by respondents who attended some college, attended some college, or attended four or more years of college. Respondents who never attended school or only attended kindergarten, who attended grades 1-8, and who attended grades 9-11 had the lowest rates of heavy alcohol consumption. Altogether, alcohol misuse appeared to increase with educational attainment, but it is possible that this was due to overrepresentation of college graduates in this sample. Although previous research has indicated that correlations between education level and alcohol misuse were weak (Barr et al., 2016), Mulia et al. (2017) found that educational attainment was protective across racial and ethnic groups against alcohol misuse. Elliott and Lowman (2014) found that higher education predicted lower alcohol misuse via

internal locus of control; low socioeconomic status, on the other hand, also predicted decreased alcohol misuse due to an association with increased religiosity.

Members of an unmarried couple were more likely binge drink compared to those reporting other relationship status, followed by those identified as never married, married, separated, and divorced). Widowed respondents had the lowest rate of binge drinking. The distribution of binge drinking behavior across marital statuses is inconsistent with research indicating that intimate relationships contribute to reduced alcohol consumption (Dinescu et al., 2016). However, divorced respondents had the highest rates of heavy alcohol consumption, followed by those who were categorized as separated and as married. Heavy alcohol consumption was lowest among widowed respondents.

Hypothesis 1: Economic Insecurity and Alcohol Misuse

It was hypothesized that a continuous measure of economic insecurity (i.e., housing and/or food insecurity) in the past 12 months would significantly and positively predict binge drinking as well as heavy alcohol consumption in the past 30 days in a large sample of adults living with at least one child under the age of 18. Although this study was not explanatory in scope or purpose, the hypothesized ability of economic insecurity to predict parental alcohol misuse was based on prior research indicating that economic insecurity is a significant stressor (Rohde et al., 2016; World Health Organization & Calouste Gulbenkian Foundation, 2014), that economic insecurity is particularly stressful for financially struggling parents (Neppl et al., 2016), and that may be an important factor in drinking behavior (Keyes et al., 2012).

Results of logistic regression analyses were not significant; economic insecurity in the past 12 months did not predict parental binge drinking or heavy alcohol consumption in this sample. On one hand, the lenient definition of economic insecurity used in this study may have

resulted in overrepresentation of respondents categorized as having experienced economic insecurity, thereby weakening the predictive power of this variable. Any response other than “Never” on an ordinal scale of housing insecurity frequency or on an ordinal scale of food insecurity resulted in respondents being categorized as having experienced economic insecurity. Ultimately, this lenient coding resulted in over half of all respondents being categorized accordingly. It is possible that raising the threshold to responses of “Sometimes” or higher may have resulted in statistically significant results. Moreover, it is possible that economic insecurity, as defined in this study, was not conceptualized in such a way as to adequately predict parental alcohol misuse, which may be driven by an array of personal, cultural, and structural factors not considered in this study. One possible issue is the lack of precision with which economic insecurity was measured. The BRFSS asked respondents to report how frequently they experienced housing or food insecurity within the last 12 months, and to report drinking behaviors over the past 30 days. Using the former to predict the latter may have been presumptive. For example, it is reasonable to expect occasional instances of difficulty affording housing or food six or more months ago might not have driven alcohol misuse several months after the fact. *T*-tests to assess the differences in parental alcohol binge drinking and heavy alcohol consumption for those experiencing economic insecurity or poverty compared to those who were not experiencing economic insecurity were significant, but miniscule effect sizes in both cases limit the practical importance of these results. That is, economic insecurity predicted a significantly more binge drinking as well as a significantly less heavy drinking, but these results may be due more to the large sample size, resulting in exaggerated significance being assigned to what amounted to minor differences. Thus, although the results of these *t*-tests were statistically significant, economic insecurity, as measured in this study, cannot be said to have meaningfully

predicted parental binge drinking or heavy alcohol consumption in this sample. Nominally, at least, these results align with previous findings indicating that economic insecurity predicted greater quantity, but lower frequency, of alcohol consumption (Huckle et al., 2010).

Hypothesis 2: Poverty and Alcohol Misuse

In line with previous research identifying poverty as a significant stressor associated with numerous adverse outcomes (McDonald et al., 2020; Rohde et al., 2016; World Health Organization & Calouste Gulbenkian Foundation, 2014), including alcohol misuse (Richardson et al., 2013) and higher rates of substance misuse among parents (Grant et al., 2011; Palmer et al., 2020), it was hypothesized that respondents whose household income fell beneath the federal poverty line relative to their reported household size would be more likely to engage in parental binge drinking and heavy alcohol consumption. Poverty as measured in this study negatively predicted all measures of parental alcohol misuse.

That poverty negatively predicted alcohol misuse in this sample is consistent with previous research indicating that pervasive stereotypes about alcohol misuse concentrating among people living in poverty do not hold up to scrutiny (Galea et al., 2007; Livingston et al., 2011). It is possible that binge drinking and heavy alcohol consumption are cost prohibitive and that parents who are living on a tight budget are, on average, less inclined to spend money on alcohol. It is likewise possible that parents living in poverty may have to work longer hours to meet basic living costs while still meeting the demands of parenting and their children's busy schedules, and therefore have less leisure time to drink. Previous research into relationships between economic insecurity/poverty and alcohol misuse have indicated that the highest rates of alcohol consumption cluster in among the lowest- and highest-income populations (Galea et al., 2007); that poverty is linked both to abstinence and to heavy alcohol consumption (Cerdá et al.,

2011); and that there is little difference in quantity of alcohol consumption between those at the lower and higher ends of the economic spectrum (Collins, 2016). Altogether, the findings of the current study are indicative of this lack of linearity reflected in previous research and support the idea that drinking behaviors are shaped by more than economic or financial considerations alone. For example, it is worth considering whether something specific to parenthood mitigates alcohol misuse. It could be that parents are less inclined to misuse alcohol by virtue of the value or sense of responsibility they place into their roles as parents. It is also possible that parenting itself is inherently and sufficiently stressful enough to bring parents to the threshold of drinking behavior, such that if they are not already misusing alcohol, adding the stress of economic insecurity or poverty will have little impact. Another possibility is that parents who are juggling the responsibilities of raising children, holding down jobs, and meeting the demands of domestic life may simply lack the time, energy, or desire to misuse alcohol. Future studies striving to further clarify may do well to examine variations in parental alcohol misuse along the economic spectrum. Moreover, a future study with a design similar to that used in the current study may compare alcohol misuse between parents and non-parents. Specifically, BRFSS data could be used to determine whether different patterns of alcohol misuse exist between parents and nonparents, and whether economic insecurity, poverty, or other factors shape those patterns.

Strengths and Limitations

This study benefitted from a large, representative sample from whom data were drawn methodically over multiple years. In addition, this study differs from previous research in that it differentiates between economic insecurity and poverty and uses both as predictors to measure multiple measures of alcohol misuse. Relatedly, this study focuses specifically on identifying factors contributing to parental alcohol misuse.

In terms of limitations, the predictive nature of this study does not offer much by way of explanatory models. To reiterate, the purpose and scope of this study was limited to establishing relationships as opposed to explaining the complexity of relationships, interactions among covariates, or confirming mechanisms driving associations between measures of economic insecurity/poverty and parental alcohol misuse. In addition, this study does not account for directionality between economic insecurity or poverty and parental alcohol misuse. It is possible, in at least some cases, that parental alcohol misuse and the outcomes thereof contribute to economic insecurity and/or poverty.

Furthermore, some of the measures used in this study are lacking in nuance. In particular, the measure derived for heavy alcohol consumption relied on assumptions of average number of drinks per days in which respondents consumed alcohol. This measure does not lend itself to a nuanced analysis of heavy drinking patterns. In addition, the measure of imputed income that was compared to household size, and from which was derived the measure of poverty used in this study, also lacked precision. It is possible, if not likely, that better defined measures of both heavy alcohol consumption and poverty will benefit future studies. In turn, a better understanding of economic factors driving parental alcohol misuse will inform the design and implementation of targeted interventions and likely yield positive results for vulnerable households.

One of the immediately striking aspects of this sample is the prevalence of economic insecurity, measured as having at least rarely experienced housing or food insecurity in the past 12 months. More than half of this sample reported experiencing economic insecurity. It is likely that the prevalence of economic insecurity in this sample is at least partially due to the leniency

of the manner in which it was measured. Raising the threshold for economic insecurity from “rarely” to “sometimes” may have changed results substantially.

Implications

This study addressed an underexamined area of research by focusing solely on the role of economic insecurity and poverty as potential predictors of parental alcohol misuse. Accordingly, the scope of this study was not so much an empirical attempt to explain potential relationships so much as it was an attempt to determine whether such relationships exist. Whereas measures of economic insecurity and of poverty have been linked to alcohol misuse (Galea et al., 2007; Haushofer & Fehr, 2014; Karriker-Jaffe et al., 2013; Mulia & Karriker-Jaffe, 2012; Murphy et al., 2014), few studies examining relationships between measures of economic insecurity or poverty and alcohol misuse have assessed parental alcohol misuse as an outcome. In fact, it seems that most published studies on the subject of parental alcohol misuse treat it as a predictor of other outcomes. In fairness, although this study sought to investigate economic insecurity and poverty as predictors of parental alcohol misuse, this study did not address directionality; that is, the current study does not consider whether parental alcohol misuse contributes to economic insecurity or poverty. Ultimately, what can be said is that poverty alone, and the measure of economic used in this study, were poor predictors of parental alcohol misuse in this sample. The purpose of this study was to identify the influence of economic insecurity and poverty on binge drinking and heavy alcohol consumption. This influence was not found.

Economic insecurity, particularly housing insecurity, was prevalent across age groups as well as racial and ethnic groups. An important consideration is that this study used BRFSS data from 2011-2015, in which respondents reported their experiences from the previous 12 months. Thus, these data represent respondents’ experiences of economic insecurity beginning in 2010

and in the aftermath of a period of recession in the United States. On the other hand, economic insecurity, particularly housing insecurity, remains a widespread issue in the U.S., reflecting a persistent trend of burdensome housing costs further exacerbated by the COVID-19 pandemic (Joint Center for Housing Studies of Harvard University, 2020). Another trend observed in these data is that economic insecurity and poverty disproportionately impacted women and, with the exception of Asian and non-White racial and ethnic groups. This is reflective of national data indicating that economic insecurity is widespread, distributed across the income spectrum, and concentrated among low-income minority families with children. (Cooper & Pugh, 2020; PERE, 2018).

Although economic insecurity and poverty disproportionately impacted women and non-White respondents, alcohol misuse generally concentrated among White, male respondents, with the exception of Native Hawaiian or other Pacific Islander respondents. On one hand, this was consistent with trends noted in prior research in which men were more likely than women to increase alcohol consumption to self-medicate somatic symptoms associated with economic stress (Little et al., 2009; Mulia et al., 2008); on the other hand, the higher rate of alcohol misuse in White respondents relative to non-White respondents was inconsistent with previous findings that racial and ethnic minority populations experiencing economic disadvantage were at significantly greater risk for alcohol problems (Mulia et al., 2008).

Although neither hypothesis was supported, the outcomes of this study reflected the complexity of factors potentially contributing to alcohol misuse in general, and specifically to parental alcohol misuse (Maloney et al., 2010). This study highlights the challenge of identifying drivers of parental alcohol misuse in general, but at a minimum has confirmed that economic

insecurity and poverty are unlikely to serve as helpful standalone predictors using these particular measures.

Future Research Directions

The results of this study indicate that parental alcohol misuse may manifest differently across and within various demographic categorizations, possibly—if not likely—including factors not considered in this study, such as neighborhood or community characteristics, household size, and number of children in the household. A more stringent definition of economic insecurity will likely result in better defined relationships between economic insecurity and measures of parental alcohol misuse. It may also be useful to examine domain-specific measures of economic insecurity, including housing and food insecurity, in separate analyses to determine if they differentially predict parental alcohol misuse. In addition to utilizing a more stringent definition of economic insecurity, future studies should include focused explanatory models that include interaction effects for dichotomous and ordinal measures of economic insecurity/poverty as predictors for parental alcohol misuse. Longitudinal measures may be more effective at establishing causation.

In summary, additional research is needed to further define and clarify the associations—or lack thereof—between parental alcohol misuse and measures of economic insecurity and poverty. These relationships may be elucidated via more precise measurements, longitudinal data, and the investigation of additional forms of economic insecurity.

Conclusion

The results of this study did not find support for hypothesized relationships between measures of economic insecurity and poverty and parental alcohol misuse. Where results were significant, they indicated that economic insecurity negatively predicted frequency of parental

alcohol misuse, and that poverty negatively predicted both occurrence and frequency of parental alcohol misuse. However, effect sizes were negligible for measures of frequency of parental alcohol misuse. Taken collectively, these results suggest that more research is needed to clarify and explain the complex relationships between economic positioning and patterns of alcohol misuse, which are likely determined by numerous demographic and personal factors.

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