

Stress, Family Care, and Day Drinking Among
Women During the COVID-10 Pandemic

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“Day drinking,” is used colloquially to refer to the drinking of alcohol during daytime hours. Despite scores of studies of alcohol consumption and its negative effects on health, only a handful of studies have explicitly investigated *when* people drink. Drinking during the day is generally considered a sign of an alcohol use disorder (Chan et al., 1993; Danel, Jeanson & Touthou, 2003; SAMHSA, 2023; York, 1995), except under special circumstances such as weddings, sporting events, and Sunday brunch (Gilson et al., 2021; Howe & Finn, 2023; Terry-McElrath et al., 2023). Outside of these contexts, day drinking is either heavily stigmatized or trivialized (Gariano, 2023; Killingsworth, 2006; Purtill, 2020). Existing studies of day drinking have also been limited to specific populations, most often college students (Fairlie et al., 2015; Glassman et al., n.d.; Neal & Fromme, 2007; Patrick et al., 2016), and in narrow set of circumstances such as “pre-gaming” (drinking before going out), drinking games, and 21st birthdays (Calhoun & Linden-Carmichael, 2022; Calhoun & Maggs, 2021; Foster & Ferguson, 2014; Gilson et al., 2021; Graupensperger et al., 2023). Other studies of day drinking have been limited to people with known substance use disorders or who are in treatment (Chan et al., 1993; Danel et al., 2003).

There is no also agreed-upon definition of day drinking among researchers and studies conceptualize day drinking in different ways, such as “morning drinking,” drinking “before 4 pm,” and “drank during the day” (e.g., Alcohol.org, 2022; Graupensperger et al., 2023; Killgore et al., 2022; York, 1995). That said, the few studies of day drinking do that exist indicate its prevalence is not inconsequential. For example, in a study of 1,004 men and women who reported having drank during the day at least once, 29% of men and 19% of women said they engaged in day drinking every week (Alcohol.org, 2022). In a longitudinal study of over 600 college students, 50% reported drinking during the day at least once in their first 7 semesters, and

day drinking occurred on 9% of drinking days (Calhoun & Maggs, 2021). Day drinking is associated with negative outcomes including heavy and hazardous drinking, alcohol-related injuries, hangovers, drunk driving, and unplanned sex (Alcohol.org, 2022; Calhoun & Maggs, 2021; Graupensperger et al., 2023; Lee et al., 2017).

Alcohol consumption varies across history, culture, and social context. COVID-19 interrupted the cadence of daily life and blurred the lines between “day” and “night” (Caluzzi et al., 2022). Widespread lockdowns and stay-at-home orders meant the loss of time- and place-based drinking occasions. Many states relaxed their alcohol laws to allow home delivery, which is associated with greater alcohol consumption (Grossman et al., 2022) and happy hours moved from bars and restaurants to Zoom (Pakdaman & Clapp, 2021). Only a handful of studies have examined day drinking in the context of the COVID-19 pandemic. Killgore et al. (2022) examined the prevalence of morning drinking (“How often during the last year have you needed a first drink in the morning to get yourself going after heavy drinking?”) based on an on-line survey 5,931 Americans between April and September of 2020. They found a steady increase in morning drinking over the months, but only among those who were employed. In interviews with 59 Australian male and female drinkers, many participants indicated that they were drinking earlier in the day than they had previously, and specifically in the context of working from home (Caluzzi et al., 2022).

Nevertheless, most evidence of day drinking during COVID-19 has been purely anecdotal. Jokes and memes about day drinking among women, and specifically mothers, were prevalent on products and social media. Some examples include a Koozie that said, “Day Drinking. Because 2020 Sucks!” and “Non-essential Worker Barbie: Quarantine Edition,” which pictured a haggard Barbie wearing a “Wine O’clock” sweatshirt. Another meme said, “Today’s Homeschool

Lesson: ‘Telling Time’” and showed a series of drinks progressing from a mug of coffee at 8 am, to mimosa at 10 am, Bloody Mary at noon, wine at 3 pm, and shot at 5 pm. Even prior to the pandemic, technology and remote work challenged the standard 9-to-5 work day, and the old adage, “It’s five o’clock somewhere” may have already begun to lose its meaning.

It is especially important to investigate day drinking among women since COVID-19 for a number of reasons. Although both men and women reported drinking more since the pandemic, the increase in alcohol use was higher among women (Biddle et al., 2020; Pollard et al., 2020a; Stewart, 2021; Tucker et al., 2022). Compared to men, women have always been more likely to drink at home (Brierley-Jones et al., 2014). It is also widely felt that the pandemic took an especially heavy toll on women’s psychological health. Since COVID-19, women remained primarily responsible for childcare and domestic tasks, but with the addition of new responsibilities—such as managing their children’s on-line education, even among full-time workers (Mooi-Reci & Risman, 2021). Parents who reported stress over distance learning have been found to drink more alcohol (Grossman & Sonnenschein, 2023). Women are also disproportionately employed in high-stress “essential” occupations and service jobs susceptible to lay-offs (U.S. Department of Labor Statistics, 2022). Change in employment as a result of COVID-19 is associated with greater alcohol consumption and worse mental well-being (Achdut & Refaeli, 2020; Caluzzi et al., 2022). An on-line survey of 1,847 respondents from 43 countries showed an increase in anxiety and depression since the pandemic, with significantly greater increases among women than men (Seens et al., 2021).

The current study addresses many gaps in knowledge of day drinking. First, although research suggests widespread increases in alcohol consumption since COVID-19, ours is one of only a handful of studies that specifically assesses day drinking. Second, we provide data on the

time of day participants had their first drink, ranging from “before lunchtime” to “after dinner or evening” as opposed binary measures of whether they ever drank during the day or not. Third, our study focuses on women and assesses factors pertinent to their lives, namely stress and family care. Fourth, the study, based on an on-line survey of 546 women and mothers, was fielded between June 3 and June 30, 2020, at the height of the pandemic and when stay-at-home orders remained widespread. Finally, little is known about the types of women most likely to day drink. Our sample includes a diverse group of women of various ages, family types, employment statuses, and income levels.

This study has several goals. First, we assess shifts in the time of day that women reported having their first drink prior to and since the onset of COVID-19 pandemic. Second, there is a distinct lack of research on factors underlying day drinking, especially among women. We therefore identify sociodemographic variables associated with day drinking (e.g., age, children, education, employment). Third, we assess whether there is a relationship between perceived stress and day drinking, as studies have found anxiety, depression, and COVID-19-specific stress, worries, and fears to be associated with increased alcohol consumption (Biddle et al., 2020; Buckner et al., 2021; Capasso et al., 2021; Lechner et al., 2021; Stewart, 2021; Tsai et al., 2021). Fourth, it is well-established that difficulties balancing work and family is associated with greater alcohol consumption among women (Frone, 1999; Frone et al., 1997; Grzywacz & Marks, 2000; Haydon et al., 2018; Stewart, 2022). We examine the relationship between day drinking and family caretaking using a novel measure of women’s perceived level of difficulty managing COVID-19-related family demands in relation to work obligations and self-care.

BACKGROUND

The Habitus of Drinking

Drinking behavior is sensitive to social context and norms surrounding alcohol consumption vary across history, culture, and situation. Pierre Bourdieu argues that “the choices of everyday life,” including those regarding food and drink, reflect current social and economic conditions and one’s position in the social hierarchy (Bourdieu, 1984). *Habitus* refers to “a subjective but not individual system of internalized structures, schemes of perception, conception, and action common to all members of the same group or class” which serve to reproduce and cement existing social structures (Bourdieu, 1977,p.86). One’s habitus therefore has important implications for lifestyles and health (Williams, 1995).In the United States, drinking has ebbed and flowed across history and varies by class, religion, and culture. Although Americans are deeply ambivalent about alcohol (Gallup Inc., 2022), “social drinking,” or low-risk drinking, is more socially acceptable than heavy drinking or not drinking at all, although its definition is hard to pin down (Cheers et al., 2020; Stewart, 2022).Many countries do not have the same prohibition and concerns over day drinking as in the United States and in many European countries, alcohol is integrated into daily life (Mäkelä et al., 2006). For example, younger generations in England are moving away from day drinking in traditional pubs and bars to “hybrid” drinking establishments such as restaurants and alcohol-added cafes that are more welcoming to women and families. Day drinking in these “boutique” establishments is less reviled by the public than day drinking in traditional drinking spaces (Thompson et al., 2018). Social norms are an important regulator of drinking. Approval and encouragement to drink by friends and family and being around others who are drinking are associated with drinking

intentions and greater alcohol consumption (Haydon et al., 2018; Howe & Finn, 2023; Lee et al., 2017).

The habitus of drinking is also gendered. Focus groups with 49 middle-class workers in the United Kingdom found participants associate “home drinking” with women engaging in moderate consumption of wine and associate “traditional drinking” with men drinking large quantities of beer and/liquor in public spaces (Brierley-Jones et al., 2014). Across countries, women consume wine most frequently whereas men tend to consume beer and spirits (Jones, 2013; Mäkelä et al., 2006). According to Historian Rocco Capraro, alcohol consumption has always been a “male domain.” Drinking alcohol falls into “a line of masculine icons, including body building, sexual assault, and pornography” (Capraro, 2000, p. 310). Male drinking is associated with stereotypical, generally positive, male traits such as acting as a leader and a willingness to take risks (Landrine et al., 1988). Women who drink experience significantly greater societal disapproval than do men and are considered less feminine and more sexually available than woman who do not imbibe (Abbey & Harnish, 1995; Gomberg, 1993; Lyons & Willott, 2008; Ricciardelli et al., 2001).

In the United States, despite the widespread acceptance of alcohol, there have always been strict boundaries around its use (Dietler, 2019). However, boundaries surrounding drinking became more permeable with COVID-19. For example, and people moved toward drinking at home alone or on Zoom with friends, not waiting for the weekend or end of the weekday to drink (Bochicchio et al., 2021), and drinking earlier in the day. In the study by Caluzzi et al. (2022, p. 3) one 34-year-old man who lost their job said, “When I was working, I would only ever drink in the evening, but when I stopped working, I’d probably start drinking about two in the afternoon”

Trends in Alcohol Use and Health Outcomes

According to the 2021 National Survey on Drug Use and Health (NSDUH), 84% of people ages 18 and older reported having drunk alcohol at some point in their lifetime, 67% reported that they drank in the past year, and 52% reported that they drank in the past month. There has been a substantial rise in alcohol consumption and sales since the pandemic (Alpers et al., 2021; Biddle et al., 2020; Calina et al., 2021; Lechner et al., 2021; Nikolaidis et al., 2021; Zipursky et al., 2021). In 2022, the average number of drinks consumed by Americans in the past week was 4.0, compared to 2.8 in 1996, a 43% increase (Gallup Inc., 2022). A Nielsen survey found that alcohol sales were over 50% higher in March of 2020 than in March of 2019 (Nielsen IQ, 2020). Data from the Rand Corporation American Life Panel (ALP) showed a 14% increase in the number of days alcohol was consumed in the Spring 2020 compared to one year prior (Pollard et al., 2020). Studies conducted early in the pandemic based on social media users, college students, and other non-representative samples also reported increases in alcohol consumption (Avery et al., 2020; Capasso et al., 2021; Graupensperger et al., 2021; Stewart, 2021). Along with increased alcohol consumption and sales, there have been substantial increases in alcohol-related health emergencies, liver disease, car accidents, and drug overdoses (Calina et al., 2021; Capasso et al., 2021; Cholankeril et al., 2021; Graupensperger et al., 2021; Grossman et al., 2020; Knopf, 2022; NHTSA, 2022; Pollard et al., 2020; Sharma et al., 2021; Zipursky et al., 2021). Although rates of illness and death from COVID-19 have declined, the pandemic continues to cast a long shadow, and alcohol consumption and alcohol-related stress remain elevated.

The negative effect of alcohol on people's emotional, social, and physical health is well-documented. Alcohol increases the risk of chronic health conditions (e.g., cancer, heart disease,

stroke), liver disease, dementia, depression, suicide, and the Global Burden of Disease suggests that no amount of alcohol is healthy (Boden & Fergusson, 2011; Connor, 2017; Mellinger et al., 2018; Ridley et al., 2013; Tapper & Parikh, 2018; Upenieks & Schafer, 2020). Nearly 30 million people in the U.S. age 12 and older (11%) reported alcohol use consistent with an Alcohol Use Disorder (AUD). Over a third (36%) of Americans agreed that drinking has “ever been a cause of trouble in the family” and 11% of children (7.5 million) are living with a parent with an AUD (Gallup Inc. 2022; NIAAA 2023). Alcohol contributes to 19% of emergency department visits and 22% of overdose deaths related to prescription opioids. Alcohol-related deaths, along with suicide and drug overdoses, so-called “deaths of despair,” are considered responsible for the notable 2015 reversion in U.S. life expectancy (Acciai & Firebaugh, 2017; Case & Deaton, 2015; Petterson et al., 2020). Life expectancy declined further in 2021 due mostly to COVID-19, but also due in part to continued increases in alcohol-associated liver disease, drug overdoses, and suicide (National Center for Health Statistics, 2022). Researchers are anticipating an increase in deaths of despair as a result of the coronavirus pandemic (Petterson et al., 2020).

Alcohol Use and Health Outcomes Among Women

Although women drink less alcohol than do men (Esser et al., 2014; Grant et al., 2016; Wilsnack et al., 2000, 2006), numerous studies show a convergence over the years of women’s and men’s alcohol use in terms of prevalence, amount, and frequency, and alcohol-related problems and harms (Grant et al., 2017; Grucza et al., 2018; Jones, 2015; Slade et al., 2016). This convergence is being driven by increases in alcohol use among women as opposed to declines among men (White et al., 2015). The U.S. Department of Health and Human Services estimates there are 5.3 million women in the U.S. who are heavy drinkers or who “drink in a way that threatens their health, safety, and general well-being (U.S. Department of Health and Human Services, 2000).

Nearly a quarter of women (23%) reported previous lifetime levels of alcohol use consistent with an alcohol use disorder, and 10% within the past 12 months (Grant et al., 2017)

Women's increased alcohol consumption is linked to an increase in alcohol-related morbidity and mortality. There has been a greater increase in deaths due to alcoholic liver disease among women than men (Breslow et al., 2017). Cirrhosis related to alcohol increased 50 percent in women between 2009 and 2015 (Mellinger et al., 2018). An analysis of U.S. death certificates filed between 1999 and 2017 showed an 85% increase in deaths due to alcohol among women compared to an increase of only 35% for men (White et al., 2020). A study of the incidence of in three hospitals in Fresno, California showed an overall 51% increase in hospitalizations due to alcohol-related hepatitis between 2019 and 2020, with a 125% increase for women (Sohal et al., 2022). Women are more susceptible to alcohol-related health conditions than are men, as well as infertility, reproductive problems, and breast cancer (IAS, 2017; Milic et al., 2018; Petri et al., 2004; Tapper & Parikh, 2018; Xu et al., 2020). Women have experienced the same plateau in life expectancy as men partly a result of increases in alcohol-related deaths and liver disease.

Several studies have found greater increases in alcohol consumption among women than men since COVID-19. Pollard et al. found that women experienced a 17% increase in the number of days alcohol was consumed, compared to only 11% for men. There was also a 41% increase in number of days of heavy drinking and a 39% increase in alcohol-related problems, with no significant increases for men (Pollard et al., 2020). Others have found that the increase in alcohol consumption since the pandemic was 36% higher among women than for men (Biddle et al., 2020). Subsequent waves of the ALP suggest a stabilization or decline in alcohol use among men but not among women (Tucker et al., 2022).

COVID-19 Stress, Family Care, and Women's Drinking Patterns

Psychological distress is associated with more frequent use of alcohol, higher volumes of alcohol consumed, and increased problem drinking (de Goeij et al., 2015). During the pandemic, stressors include adjusting to remote work, reduced hours, unemployment, lost wages, inability to pay bills, and meet daily needs for food and other essential items, and overall economic uncertainty (Grace, 2021; Nielsen et al., 2021; Westrupp et al., 2023). In a survey of over 1,000 Australian parents, 38% listed their heightened stress and anxiety levels as the reason for their increased alcohol intake and one in four specifically mentioned homeschooling as a cause (Alcohol and drug foundation, n.d.). Other contributing factors are social isolation, loneliness inability to exercise or take part in hobbies, changes in work responsibilities, and increased caretaking responsibilities (Bochicchio et al. 2021; Bragard et al., 2022; Cerezo et al. 2021; Dunatchik et al., 2021; Molino et al., 2020; Tronco Hernández et al., 2021). A nationally representative survey of U.S. adults conducted in the summer of 2020 showed increases in anxiety and depression symptoms, suicidality, and substance use compared to pre-pandemic levels (Czeisler et al., 2021). A poll conducted by Gallup indicates that in mid-April 2020, U.S. life satisfaction plummeted to a 12-year low alongside significant increases in daily stress (up 14%) and worry (up 21%) compared to 2019 (Witters & Harter, 2020).

Few studies have sought to examine the association between COVID-19-related stressors and alcohol consumption specifically among women. An exception is Biddle et al. (2020), who found that women reporting their main role during the pandemic was “doing housework and looking after children or other persons” consumed more alcohol than did other women (Biddle et al., 2020). In an on-line survey of 361 parents (including fathers) conducted in May 2020, those reporting stress over their children's remote learning drank 7 more drinks per month than parents

who did not (Grossman & Sonnenschein, 2023). A survey of 1,684 Australians during COVID-19 found an increase in frequency and quantity of alcohol consumed among midlife women but not for the corresponding group of men (Callinan et al., 2021). A Facebook survey of 1,721 mothers with preschoolers in May 2020 found household chaos (e.g., disorder, noise, crowding) and stress to be significantly associated with poor health behaviors, namely low physical activity and poor sleep (alcohol consumption was not examined; Kracht et al., 2021).

Research on stress and alcohol use among women had been lacking even prior to COVID-19. Most studies focus on alcohol consumption during pregnancy and binge drinking among female adolescents and young adults, neglecting women's alcohol consumption later in the lifecourse. Although many studies indicated that women with children drink less than women without children (Balan et al., 2014; Chilcoat & Breslau, 1996; Cho & Crittenden, 2006; Laborde & Mair, 2012), alcohol use is increasing among mothers. McKetta & Keyes (2019), examined the drinking patterns of women who were part of the National Health Interview Study and found that although women with children drank less alcohol, binge drinking and heavy drinking increased among mothers and non-mothers alike, while abstinence declined. Nor have studies adequately examined the complexity of women's lives. Single mothers account for one-quarter of all families with children under age 18 and are often solely responsible for their care (U.S. Census, 2021). They are more socially isolated than are partnered mothers and are in worse psychological and physical health, all factors associated with greater alcohol consumption (Benton, 2021). Moreover, the individualistic and competitive culture of the United States, combined with poor institutional supports for families, puts enormous pressure on women. While both men and women experienced increased anxiety and depressive symptoms during COVID-19 lockdowns, increases were significantly greater among women (Ausín et al., 2021; Seens et al., 2021).

Wardell et al., 2020 found that drinking to cope with stress, as opposed to other motives, was associated with greater alcohol consumption during COVID-19. A study of Australian women found drinking intentions and behavior were related to “having a stressful week” and because it “makes me feel relaxed” (Haydon et al., 2016).

Women’s roles have expanded, multiplied, and become more demanding, as result of rising expectations for children, and increases in women’s education, employment, and income. Most American women are juggling paid work and family caregiving. Among mothers, the bar has also been raised as to what constitutes a "good" parent with the emergence of *intensive mothering* (Hayes, 1996). Intensive mothering involves the close supervision of children, high levels of involvement in children's academics and activities, continuous monitoring of children’s achievement, and self-sacrifice, and putting others’ needs above one’s own. This parenting style has become the desired model of raising children, if not standard, creating added stress. Conflict between work and family demands is associated with worse physical and psychological health and greater use of alcohol among women (Cooper et al., 1992; Frone, 1999; Frone et al., 1997; Grzywacz & Marks, 2000; Haydon et al., 2016.). Stewart (2022) interviewed 32 women about their alcohol use prior to COVID-19. When asked what is happening that women are drinking more, one married mother with two children stated:

I think they're stressed out. Women have started to join the workforce, but men have not started to share the households and the emotional work of the family. Women are still doing almost a hundred percent of the housework. They're still doing a hundred percent of the cooking and grocery shopping. They're still signing the kids up for soccer and basketball and driving them places. And dads just show up. I would say the vast in majority of my beautiful suburban upscale, middle class neighborhood, the dad does jack

shit. He goes to work and comes home and that's enough. And the mom does everything and also works full time. So the moms feel overwhelmed and they feel like they're losing the battle no matter what they do (p. 73).

Sociodemographic Diversity in Women's Alcohol Use

Many sociodemographic variables are associated with women's drinking patterns. Alcohol consumption declines with age, although drinking and hazardous drinking has been increasing among older women (Breslow et al., 2017). Women who are White, have a college education, who are employed, and have higher earnings tend to drink more alcohol. Marriage, children, and religiosity are associated with less drinking (Chen et al., 2020; Chilcoat & Breslau, 2009; Woolf et al., 2018; Breslow et al., 2017; Britton et al., 2015; Grant et al., 2017; Grucza et al., 2018; Jones, 2015; Keating, 2016; Kerr et al., 2009; Miller-Tutzauer et al., 1991; Woolf et al., 2018).

METHODS

This study is based on an on-line survey of 546 women age 25 and older who reported drinking alcohol at least occasionally, fielded between June 3 and June 30, 2020. Women under the age of 25 were excluded because they demonstrate a temporary upswing in drinking and binge drinking (Siqueira & Smith, 2015). Participants were recruited through social media, email, listserves, and snowball sampling. Participants were directed to a website containing a consent form and a Qualtrics survey which they could access through their smartphones, computer, or other electronic device. Participants were encouraged to share the link to the study with others in their social network. Removing a small amount of cases with missing data on key variables, the analysis is based on a sample of 529 women.

The primary objective of the survey was to measure change in women's drinking patterns pre- and post-COVID-19. Respondents were asked a comprehensive set of questions about their

alcohol consumption, including their frequency of drinking, amount of alcohol consumed, instances of binge drinking, types of alcoholic beverages consumed, presence of an alcohol use disorder, and the timing of their first drink of the day: *On days you drink, when do you usually have your first drink?* Responses included *before lunchtime, around lunchtime, mid-afternoon, before dinner, with dinner, and after dinner or evening*. Given the lack of agreement of what constitutes day drinking, we operationalized day drinking in two ways, one that considers “happy hour” day drinking (had first drink anytime before dinner) and one that does not (had first drink mid-afternoon or earlier). However, there was not an adequate sample size of women reporting having had their first drink prior “before dinner” so analyses are based on the former measure. We then created a variable to capture movement into and out of day drinking since the pandemic: (a) day drank pre-COVID-19 but not post-COVID-19 (2.1%); (b) did not day drink at either time (49.0%); (c) day drank at both time points (25.0%); and, (d) did not day drink pre-COVID-19 but did day drink post-COVID-19 (24.0%). We coded women who shifted from no day drinking to day drinking as “1” and women whose propensity to day drink stayed the same (and who moved from day drinking to no day drinking) as “0” (see Table 1).

Respondents provided information on their social and economic characteristics. Age ranged between 25 and 63 with a mean of 40. Racial and ethnic identity is coded as White, Black/African American, Hispanic, Asian/Asian Indian, and other or more than one race. Due to small cell sizes, the latter categories were coded as non-White, who represented only 8.9% of the sample. Mothers’ educational attainment is a three-category measure: less than a bachelor’s degree (17.4%), bachelor’s degree (38.4%), and graduate or professional degree (44.2%). Respondents were asked whether and how their employment situation has been affected by the pandemic: Yes, I lost my job or was furloughed (9.5%); Yes, I work fewer hours (7.4%); Yes, I

work more hours (4.5%); Yes, I work from home some or all of the time (50.5%); and, No, my work life has stayed the same (28.2). Relationship status was coded as single (19.1%), cohabiting (11.5%), and married (69.4%). Respondents were asked to enumerate their number of children (biological, stepchildren, adopted/foster children) living inside and outside the household and provide their ages and genders. Children's age was coded as whether there were any children of this age: No children (21.7%), 0 to 4 (31.8%), 5 to 9 (31.1%), 10 to 14 (24.2%), 15 to 19 (16.6%), 20 to 24 (10.4%), and 25 and older (9.6%). Categories of religious affiliation included Catholic (17.4%), Protestant (23.8%), Jewish, Muslim, other religion (14.7%), and no affiliation (44.1%). Respondents were also asked if they consider themselves a spiritual person (35.2%) or not (64.8%). Respondents recorded their region of residence: Northeast (8.7%), Midwest (77.7%), South (7.4%), or West (6.2%). Yearly gross household income in 2019 ranged from less than \$49,999 (11.5%), \$50,000 to \$74,999 (18.2%), \$75,000 to \$99,999 (20.6%), \$100,000 to \$149,000 (26.1%), \$150,000 or more (23.6%). The distribution of these variables can be found in Table 2.

The Perceived Stress Scale (PSS-4) was used to measure women's stress level (Cohen et al., 1983), which ranges on a 5-point scale from 1 (never) to 5 (very often), and is the average of the following 4 items: In the last month, how often have you felt (a) you were unable to control the important things in your life, (b) confident about your ability to handle your personal problems, (c) that things were going your way, and (d) difficulties were piling up so high that you could not overcome them? Items b and c were reverse coded. The mean score was 2.6. The COVID-19 Family and Self-Care Scale (developed by the author) assesses women's perceptions of their level of difficulty in managing family demands in relation to their own needs. Respondents were asked, Since the start of the COVID-19 pandemic and social distancing in

your area, on a scale from 1 (not at all difficult) to 5 (extremely difficult), how difficult has it been to: (a) manage or help with children’s schoolwork, schedules, and activities, (b) complete tasks for work, school, or care for family members or meet other obligations, (c) find childcare, (d) provide children with educational resources and things to do, (e) cook meals and complete household tasks, (f) get enough sleep, (g) get enough physical activity or exercise, (h) have “me” time, (i) get along with family members and friends, (j) maintain positive relationships with my child(ren), (k) maintain connections with friends and family outside the household, and (m) maintain a positive relationship with my spouse or partner. The score is the average of these 12 items (items specific to mothers were not included for women with no children). The mean score was 2.8. The scale has a high level of reliability with a Cronbach’s alpha of .88.

Analytic Strategy

We first provide descriptive information on changes in the time women reported having had their first drink prior to and since the pandemic. We next used logistic regression models to estimate the effect of perceived stress and family caretaking on the odds of women moving from no day drinking pre-COVID-19 to day drinking post-COVID-19, controlling for sociodemographic factors. We ran a parallel analysis of women’s odds of day drinking post-COVID-19 (regardless of what they were doing at pre-COVID-19).

RESULTS

Table 3 describes changes in the timing of women’s first drink, pre- and post-COVID-19. The pandemic was associated with a shift to drinking earlier in the day. The percentage of women who started drinking mid-afternoon increased nearly four-fold (from 3.2% to 11.9%). The percentage who started drinking before dinner increased from 22.9% to 32.8%. Meanwhile, the

percentage that started drinking with dinner declined from 28.7% to 21.4%, and the percentage who started drinking after dinner or evening dropped from 44.2% to 29.7%. Increased day drinking was significantly positively associated with consuming more alcohol (as opposed to less or the same amount) since the pandemic, a greater number of drinks, more frequent drinking, and more frequent binge drinking or consuming 4 or more drinks in a two-hour period (results not shown).

Table 4 presents the preliminary results of several multivariate logistic regression models that assess whether and how women's perceived stress, difficulty managing family care, and sociodemographic characteristics are associated with increased day drinking since COVID-19. Model 1 indicates that White women had 74% lower odds of starting day drinking than non-White women. Women with advanced degrees had lower odds of starting day drinking than women with less than a bachelor's degree and women with a bachelor's degree, although effects are marginally significant ($p < .10$). Women who reported losing their job or being furloughed had over twice the odds of starting day drinking than women whose work life stayed the same ($p < .10$). The likelihood of starting day drinking varied by presence and age of children. Compared to women with no children, women with any children age 10-14 had over twice the odds of starting day drinking. Women with children age 20 to 24 had 64% lower odds (subsequent analyses will examine the effect of residence and gender). Results were similar when the number of children of each age was included in the model (results not shown). Catholic women had 62% lower odds of starting day drinking compared to Protestant women and women who reported another affiliation or no affiliation also had lower odds of starting day drinking since COVID-19. Women who considered themselves spiritual had 55% lower odds of starting day drinking since COVID-19 than women who did not. Women from the West had 65% lower

odds of beginning day drinking compared to women from the Midwest. Initiating day drinking was not associated with women's age, relationship status, or household income. These results remained consistent across models.

Model 2 examines the association between women's perceived stress and increased day drinking, controlling for sociodemographic factors. Every one unit increase in stress is associated with 33% higher odds of increased day drinking since COVID-19 ($p < .10$). Model 3 includes women's report of their level of difficulty managing family demands in relation to work and self-care. The relationship is statistically significant and every one-unit increase on the scale is associated with nearly twice the odds (95% higher) of increased day drinking since COVID-19. Moreover, the addition of this variable reduces the effect of perceived stress to non-significance, suggesting that it is specifically women's difficulty meeting family demands that underlies and the positive relationship between stress and day drinking.

We examined these variables in relation to whether women reported any day drinking since the pandemic, regardless of whether they drank during the day prior. We found less day drinking among women with a graduate or professional degree and among women who reported their religious affiliation as Catholic. Perceived stress and difficulty managing family care were marginally positively ($p < .10$) associated with post-pandemic day drinking.

DISCUSSION

The pandemic upset people's "habitus" and daily routines, blurred the lines between day and night, and weakened norms surrounding alcohol consumption, particularly the time of day it is considered socially acceptable to drink. Although day drinking during the COVID-19 pandemic was the subject of numerous news articles, memes, and jokes on social media, evidence of this

trend was largely anecdotal. Even prior to COVID-19, there were few investigations of potential factors associated with day drinking, and none that examined factors specific to women. Few studies have examined the impact of stress and increased family demands on women's drinking during COVID-19, and none examined their effects on day drinking.

Results show a shift among women toward drinking earlier in the day, and a significant increase in the number of women who began day drinking with the onset of the pandemic. Day drinking is associated with women's sociodemographic characteristics, their level of perceived stress, and difficulty managing family care demands in relation to their own needs. The results of this study are in line with previous research showing increased drinking among women since the pandemic, and research linking stress and work-family conflict to greater alcohol consumption. Results regarding children were particularly interesting. Women with children between the ages of 10 and 14 had higher odds of initiating day drinking since COVID-19 than did women with no children and women with children in other age groups. There have been few studies of the effect of children's age on mothers' drinking habits, but in a study of Australian parents during COVID-19, parents with 9 to 12-year-olds showed the largest increase in drinking among (Alcohol and Drug Foundation, n.d.). It's likely that parenting "tweens" is particularly difficult during a pandemic. They are not inclined to take specific direction, but still require substantial oversight. Parents of children of this age may find parenting challenging with their more advanced schoolwork than in elementary school, complicated social lives, and emotional ups and downs (Kantrowitz et al., 1999; Payne & Llosa, 2022).

Women's use of alcohol, alcohol use disorders, and alcohol-related health issues and deaths had been steadily increasing prior to the pandemic, and many women are drinking at dangerous levels. Already dealing with chronic stress, the pandemic created a crisis for many women.

Journalist Anne Helen Petersen, who specializes in gender issues, wrote, “I don’t think the pandemic has necessarily created new problems so much as exacerbated, amplified, and highlighted old/chronic ones. How much of what you’re seeing is connected to chronic patriarchy, chronic undervaluing of women’s unpaid work in the home, and chronic inattention to cultivating affordable childcare options?” (Petersen, 2022). Under that lens, drinking is not necessarily self-indulgent nor selfish. Drinking allows women, especially mothers, to function in the face of overwhelming demands, not unlike the “little yellow pill” prescribed to millions of disenchanted, anxious, and mildly (or profoundly) depressed women in the 1960s. For better or worse, women (like others) are using alcohol during COVID-19 as a way of coping and in the absence of time to oneself, as a form of “self-care” (Bochicchio et al., 2021; Cerezo et al., 2021; Wardell et al., 2020).

It is important to emphasize that these results are not representative of the national population, and despite diversity in certain areas (e.g., age, employment, relationship status) the findings are based on a largely White, college-educated sample of women. However, this group of women also has the highest levels of alcohol consumption relative to other women and have experienced the greatest increase in alcohol use in recent years (Jones, 2015; Keating, 2016; Woolf et al., 2018). Second, as is the case with other studies, measures of alcohol use are limited to self-reports and are subject to potential recall error. We also do not know if the differences we observed will be sustained beyond the pandemic. Finally, although our measure tracks drinking across the course of the day, it is not as specific as would be, say, a time diary recording drinking hour by hour.

Studies have consistently shown a decline in people’s social, emotional, and physical health since the onset of the pandemic, and a corresponding increase in the use of alcohol and other

substances. It is unclear the extent to which the pandemic will have lasting effects on our collective health, and in what ways. Previous national emergencies in the United States (e.g., 9/11 and Hurricane Katrina), had enduring negative effects on people's mental and physical health, including increased alcohol consumption (Beaudoin 2011; Esterwood and Saeed 2020; Flory et al. 2009; Raker et al. 2019, 2020; Zacher et al. 2021 but see Vlahov et al., 2004). The well-being of individuals after collective trauma has the potential to rebound relatively quickly (Knudsen et al., 2005) with long-term community support, consistent medical care, and mental health support services (Osofsky & Osofsky, 2021; Raker et al., 2020).

Even prior to COVID-19, there were many barriers for women seeking treatment for alcohol overuse that prolong dependency and health risks. Guilt, shame, being perceived as a “bad mom,” lack of childcare, the cost of treatment, and familial opposition, the lack of gender-specific treatment, physicians being slow to recognize AUDs in women, and for single mothers, the potential loss of custody (Beckman, 1994; Finkelstein, 1994; Kelly & Hoepfner, 2013). Since the pandemic, many women have lost access to mental health services, substance use resources, and have been cut off from family and friends (Pettersen et al., 2020). It is important to continue to study how COVID-19 is affecting women's alcohol use, factors underlying their increased consumption, and the effect of drinking, and specifically day drinking, on women's social and emotional health and on the well-being of their families.

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Table 1. Description of Dependent Variable (N=529)				
Day Drank Post-COVID-19 but not Pre-COVID-19	Day Drank Pre- COVID-19	Day Drank Post- COVID-19	N	Percent
0	Yes	No	11	2.1
0	No/Yes	No/Yes	259/132	49.0/25.0
1	No	Yes	127	24.0

NOTE: Day drinking defined as having first drink anytime before dinner.

Table 2. Description of Independent Variables (N=529)		
	N	Percent or Mean
Perceived stress scale (1-5)		2.6
Family and personal care scale (1-5)		2.8
Age (25 to 63)		40.0
Race and ethnicity		
White	482	91.1
African American/Black	7	1.3
Hispanic	12	2.3
Asian/Asian Indian	3	0.6
Other or more than one race/ethnicity	25	4.7
Educational attainment		
Less than bachelor's degree (ref.)	92	17.4
Bachelor's degree	203	38.4
Graduate or professional degree	234	44.2
Employment status		
Full-time	386	73.0
Part-time	50	9.5
Other (student, retired, stay-at-home parent, not working)	93	17.6
Change in employment due to COVID-19		
Furloughed or lost job	50	9.5
Work fewer hours	39	7.4
Work more hours	24	4.5
Work from home some of all of the time	267	50.5
Work life has stayed the same	149	28.2
Relationship status		
Single	101	19.1
Cohabiting	61	11.5
Married	367	69.4

Any children of this age		
None	115	21.7
0-4	168	31.8
5-9	170	32.1
10-14	128	24.2
15-19	88	16.6
20-24	55	10.4
25+	51	9.6
Religious affiliation		
Catholic	92	17.4
Protestant	126	23.8
Other	78	14.7
No affiliation	233	44.1
Consider yourself a spiritual person		
No	187	64.8
Yes	342	35.2
Region		
Northeast	46	8.7
Midwest	411	77.7
South	39	7.4
West	33	6.2
Household income in 2019		
Less than \$49,999	61	11.5
\$50,000 to \$74,999	96	18.2
\$75,000 to \$99,999	109	20.6
\$100,000 to \$149,999	138	26.1
\$150,000 or more	125	23.6
Note: Cells may not total to 100% due to rounding.		

Table 3. Time of Day of Women's First Drink Pre- and Post-COVID-19 (N=529)				
	Pre-COVID19		Post-COVID-19	
	N	Percent	N	Percent
<i>On days you drink, when do you usually have your first drink?</i>				
Before lunchtime	0	0.0	2	0.4
Around lunchtime	5	1.0	21	4.0
Mid-afternoon	17	3.2	63	11.9
Before dinner	121	22.9	173	32.8
With dinner	152	28.7	113	21.4
After dinner or evening	234	44.2	157	29.7
Note: Cells may not total to 100% due to rounding.				

Table 4. Predictors of Mothers' Odds of Increased Day Drinking Since COVID-19 ^a						
	Model 1		Model 2		Model 3	
	odds ratio	SE	odds ratio	SE	odds ratio	SE
Age	0.982	0.019	0.986	0.019	0.991	0.019
Race and ethnicity						
White	0.261 ***	0.389	0.285 **	0.394	0.323 **	0.400
Nonwhite (ref.)						
Educational attainment ^b						
Less than bachelor's degree (ref.)						
Bachelor's degree	0.914	0.325	0.911	0.326	0.864	0.331
Graduate or professional degree	0.529 #	0.366	0.529 #	0.366	0.531 #	0.371
Change in employment due to COVID-19						
Lost job or furloughed	2.109 #	0.398	2.080 #	0.400	2.176 #	0.406
Work fewer hours	1.934	0.422	1.880	0.424	1.643	0.434
Work more hours	1.573	0.573	1.443	0.579	1.168	0.589
Work from home some of all of the time	1.165	0.284	1.107	0.287	0.989	0.292
Work life has stayed the same (ref.)						
Relationship status						
Single (ref.)						
Cohabiting	1.616	0.429	1.519	0.432	1.587	0.440
Married	1.844	0.388	1.726	0.389	1.616	0.398
Any of children of each age ^c						
No children (ref.)						
0 to 4	1.309	0.272	1.283	0.272	1.089	0.281
5 to 9	0.885	0.250	0.857	0.251	0.718	0.260
10 to 14	2.076 **	0.281	2.066 **	0.282	1.886 *	0.285
15 to 19	0.577	0.389	0.560	0.388	0.610	0.396
20 to 24	0.337 #	0.598	0.351 #	0.597	0.326 #	0.610
25+	0.628	0.650	0.579	0.652	0.518	0.663
Religious affiliation						
Catholic	0.338 **	0.394	0.363 *	0.396	0.378 *	0.396
Protestant (ref.)						
Other	0.506 #	0.373	0.488 #	0.376	0.464 *	0.382
No affiliation	0.567 #	0.315	0.562 #	0.317	0.565 #	0.319
Consider yourself a spiritual person						
No (ref.)						
Yes	0.552 *	0.270	0.556 *	0.271	0.530 *	0.276
Region						
Northeast	1.108	0.466	1.054	0.466	1.002	0.471
Midwest (ref.)						
South	1.030	0.456	1.006	0.459	1.212	0.471
West	0.354 #	0.612	0.345 #	0.615	0.359	0.633
Household income in 2019						
Less than \$49,999 (ref.)						
\$50,000 to \$74,999	1.368	0.424	1.408	0.427	1.295	0.435
\$75,000 to \$99,999	1.779	0.444	1.963	0.450	1.725	0.460
\$100,000 to \$149,999	0.926	0.463	1.013	0.468	0.923	0.478
\$150,000 or more	1.056	0.507	1.182	0.513	1.034	0.526
Perceived stress scale			1.330 #	0.165	0.959	0.193
Family and personal care scale					1.966 **	0.207

#p<.10; *p < .05; **p<.01; ***p < .001.

^aDifferences among categories are not statistically significant unless specified.

^bDifference between college degree and graduate degree is significant at p < .10.

^cDifference between age 10 to 14 and 0-4, 5-9, 15-19, and 25+ are significant at p < .01 (p<.05 for 0-4).