I'm Sure It's Fine: Why Highly Educated Women Report Higher Rates of Alcohol Consumption During Pregnancy

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Abstract

The expectation to avoid health risks is particularly acute for pregnant women, who are responsible for themselves and developing fetuses. With some potential risks, however, patients may encounter inconsistent information about the likelihood of harm. Thus, we ask: how does ambiguity around potential health risks influence patients' decisions? Focusing on prenatal alcohol consumption, and combining nationally representative survey data with in-depth interviews, we find that both pregnant women and their healthcare providers distinguish accepted risks (binge drinking) from contested risks (light-to-moderate drinking). Pregnant women almost universally avoid accepted risks. With contested risks, decisions vary by educational attainment. Less-educated women avoid light-to-moderate drinking, as they worry about potential harm to their baby and potential judgment from friends, family, and providers. Highly-educated women trust themselves to drink "safely" and receive support for light-to-moderate drinking from friends, family, and providers. We discuss implications for medical risk, health decision-making, patient-provider interactions, and health-related inequalities.

As medicine has improved our ability to identify potential health risks (Cutler & Miller, 2005), patients have been held increasingly responsible for avoiding those risks (Clarke, Mamo, Fosket, Fishman, & Shim, 2009). This is particularly true for pregnant women, and even women who might become pregnant (Barker, 1998; Burton-Jeangros, 2011; Hammer & Burton-Jeangros, 2013; Waggoner, 2017). Pregnant women are expected to avoid cigarettes, alcohol, certain medications, even sushi, deli meat, and soft cheeses—anything that poses a risk to the developing fetus. With some potential risks, however, the available information is inconsistent, and people disagree about the likelihood or severity of adverse outcomes (Reich, 2016; Waggoner, 2013). Our goal is to understand how ambiguity around potential health risks impacts the decisions patients make in managing their health and the health of their families.

Specifically, we use a mixed-methods study to examine pregnant women's decisions about alcohol consumption. We begin by describing how patients and providers view different levels of alcohol consumption during pregnancy, comparing binge drinking and light-to-moderate drinking. Both groups view binge drinking as an accepted risk (i.e., one where the available information consistently points to harm), and they view light-to-moderate alcohol consumption as a contested risk (i.e., one where the available information is more ambiguous about the possibility of harm). Next, using nationally representative survey data from 2011-2016, we compare pregnant women's responses to accepted and contested risks by examining women's self-reports of alcohol consumption during pregnancy. We find that levels of reported binge drinking are extremely low among all pregnant women, suggesting that all women respond to accepted risks by avoiding those risks. Levels of reported light-to-moderate alcohol consumption, meanwhile, are positively correlated with educational attainment, suggesting that highly educated women may be less concerned about contested risks. Finally, to explain why

highly educated women are more likely to report consuming some alcohol during pregnancy, we draw on in-depth interviews with women pregnant for the first time. We find that less educated patients try to avoid contested risks by avoiding even small amounts of alcohol. Highly educated patients instead try to manage contested risks by creating and following their own rules for drinking "safely" while pregnant. We also find evidence that women's decisions are shaped by information and pressure from friends and family members, which differ depending on their class backgrounds.

These findings offer critical insights regarding patients' responses to health risks and the role those responses play in health-related inequalities. First, our findings highlight the importance of acknowledging health risks as socially constructed (Bunton, Burrows, Nettleton, Burrows, & Nettleton, 2003; Dake, 1992; Lupton, 1993; Tierney, 1999) and distinguishing accepted and contested health risks (Reich, 2016; Waggoner, 2013). Second, by comparing accepted and contested risks, we can better understand a long-standing paradox in medical research—that affluent, highly educated patients are both more likely to engage in "healthy" behaviors (Pampel, Krueger, & Denney, 2010) and more likely to challenge providers' recommendations (Shim, 2010). Our findings reveal that high-SES patients follow providers' recommendations regarding accepted risks (leading them to engage in "healthy" behaviors), but they question providers' recommendations regarding contested risks (leading them to engage in potentially "unhealthy" behaviors). Finally, focusing on contested risks also clarifies how provider-patient interactions contribute to health-related inequalities (Lutfey & Freese, 2005; van Ryn & Burke, 2000). We find that contested risks exacerbate providers' unequal treatment of patients from different socioeconomic backgrounds, and we conclude by discussing how the policing of less privileged bodies relates to larger patterns of inequality.

BACKGROUND/THEORETICAL MOTIVATION

Risk and Responsibility During Pregnancy

Advances in public health and medicine over the past century have made it easier to identify potential health risks (Cutler & Miller, 2005).[1] This shift contributed to the rise of medical authority in the U.S. (Starr 1982; Abbott 1988) and to the "medicalization" of daily life (Zola 1972; Conrad 1992). As a result, patients are increasingly expected to take responsibility of their health and to avoid potential health risks (Boyer & Lutfey, 2010; Clarke et al., 2009; House, 2002; Link & Phelan, 1995).

This expectation to avoid health risks has been particularly central to efforts aimed at protecting children's health. Advancements in science and medicine in the late nineteenth and early twentieth centuries revealed that most child deaths—which were common at the time—were preventable (Zelizer, 1994). That generated public pressure to protect children from risk (Zelizer, 1981). Not surprisingly, the responsibility to protect children from risk fell almost entirely on mothers, and it continues to do so today (DeVault, 1994; Elliott & Bowen, 2018; MacKendrick, 2018; Perry & Calarco, 2017).

The expectation to avoid risk is particularly acute for pregnant women (Burton-Jeangros, 2011; Hammer & Burton-Jeangros, 2013). Following the revelation that prenatal exposure to thalidomide (a once commonly used medication for pregnancy-related nausea) has long-term negative effects on children's health (Armstrong, 2008), pregnant women have been thrust to the forefront of debates about health and responsibility (Waggoner 2013). Women who are pregnant are now told to avoid alcohol, sushi, soft cheeses, deli meats, certain medications (Waggoner, 2017)—anything that poses a risk to the developing fetus.

Accepted and Contested Risks

Mothers, and especially mothers-to-be, are expected to avoid *any* potential risks to their children. In reality, however, the information about some potential health risks is ambiguous about the severity and likelihood of harm. Childhood vaccinations offer a prime example (Casiday, 2007). The medical community strongly endorses childhood immunization (Harris, 2017), and research has found no evidence that vaccines cause significant harm (King & Bearman, 2011; Liu, King, & Bearman, 2010). However, celebrities, media outlets, mommy blogs, and advocacy groups continue to raise concerns about vaccine safety and especially about the possible link between vaccines and autism (Reich, 2016). Similarly, and in line with the view of peanut allergies as a "contested" allergy epidemic (Waggoner, 2013), the American Academy of Pediatrics recently changed its recommended timeline for peanut exposure—from two years of age to six months of age (Sicherer, 2018). Those shifting recommendations likely create confusion and concern for both pediatricians and parents.

Essentially, some risks are accepted while others are contested. We use the term "contested risk" to describe cases in which information about a potentially health risk is ambiguous or inconsistent. With accepted risks, the information patients encounter is (relatively) consistent. In the case of contested risks, on the other hand, the information patients encounter is more ambiguous.

Given this distinction between contested and uncontested risks we ask—how does ambiguous information about potential health risks influence patients' health decisions? Or, put differently, how do patients, and especially pregnant patients, manage accepted and contested risks?

In answering those questions, we focus on decisions about alcohol consumption during pregnancy. The American College of Obstetrics and Gynecology strongly advises women to abstain from all alcohol during pregnancy (American College of Obstetrics and Gynecology, 2015). That said, patients may encounter information—from the media and from friends and family members—that is inconsistent with the American medical establishment's no-amount-of-alcohol-is-safe rule (Ruiz, 2014). Thus, prenatal alcohol consumption represents a useful case for comparing women's responses to accepted and contested risks.

Managing Accepted and Contested Risks

Prior research has not specifically compared patients' decisions about accepted and contested risks, yet the existing literature does inform what we might find. Studies suggest, for example, that perceptions of and responses to risk may vary along social class lines (Dosman, Adamowicz, & Hrudey, 2001). Individuals in less affluent communities are often exposed to more risks and more information about risks, which makes them more concerned about potential risks, even if they lack the resources to deal with those risks effectively. More affluent individuals, meanwhile, face fewer risks in their day-to-day lives and have more resources for managing risks, making them less concerned about risks overall.[2]

Research in the sociology of culture also supports the idea that social class will affect patients' responses to contested risks. Studies show that, when faced with ambiguous or inconsistent expectations, individuals look to their own experiences—and not to experts or officials—for guidance (Calarco, 2014; McPherson & Sauder, 2013). In school, for example, moments of ambiguity in teachers' expectations prompt students to rely more on social class-based strategies for managing problems in school (Calarco, 2014b).

Research on medical decision-making also supports the idea that higher-SES pregnant women will be less concerned about risk. One study finds that, even after controlling for other factors like maternal age, highly educated pregnant women are still more likely to undergo amniocentesis (Kuppermann et al., 2006), a test for Down's Syndrome that involves a surgical procedure and a small risk of miscarriage (Alfirevic, Navaratnam, & Mujezinovic, 2017). And yet, while it would be easy to conclude that highly educated women ask for the test *because* they are concerned about the risk of Down's Syndrome, the authors find instead that highly educated women's greater willingness to undergo amniocentesis is entirely explained by their lower level of concern about the potential miscarriage risk.

Given such findings, we expect that pregnant women's perceptions of and responses to risk will depend on the ambiguity of those risks (i.e., the extent to which those risks are contested). We also expect that, in the context of contested risk, women's perceptions of and responses to risk will be more likely to vary along social class lines.

DATA

Behavioral Risk Factor Surveillance System (BRFSS)

The Behavioral Risk Factor Surveillance System is a telephone-based survey administered by the Centers for Disease Control and Prevention in conjunction with state health departments in all fifty states and the District of Columbia (Guam and Puerto Rico are excluded; CDC 2015). It is one of the few studies that includes questions about current pregnancy status, socioeconomic status, and recent alcohol consumption (including binge drinking). To account for increasing cellular telephone use, the CDC altered the BRFSS data collection and weighting methodology starting in 2011. They now use a disproportionate stratified sample of landlines combined with a

random sample of cellular phones and iterative proportional fitting (i.e., raking) for weights (CDC 2012). Because this change began in 2011, we pool survey data from 2011-2015. Across all states for the years 2011-2015, the mean response rate was 49.7% for landlines and 37.7% for cellular telephones. We include pregnant and non-pregnant female respondents of childbearing age (15-44 years).[3]

BRFSS Measures

Dependent measures: All respondents were asked if they consumed any alcoholic beverages (i.e., beer, wine, a malt beverage or liquor), and how many times they consumed "four or more drinks on an occasion" in the past month, which we used to code drinking behavior (0 = did not drink; 1 = limited or moderate consumption without binge drinking; 2 = engaged in binge drinking). As expected, the majority of women were cautious and avoided risky behaviors (see Table 1 for more detail). About one in ten women reported drinking alcohol (7 percent limited/moderate; 3 percent binge drinking).[4] However, these percentages likely represent a conservative estimate of drinking during pregnancy. Our BRFSS sample includes pregnant women at all stages of pregnancy and does not distinguish between those in their first, second, or third trimester. Women in their first and second trimester often experience nausea and dizziness, which may limit their desire to drink alcohol.

[Table 1 – Measures from the Behavioral Risk Factor Surveillance System (BRFSS) 2011-2015]

Social class: While there are numerous ways to operationalize social class (Lareau and Conley 2008), we focus on educational attainment. Educational attainment is an established

indicator of social advantage in the U.S. (Lutfey & Freese, 2005; Mirowsky & Ross, 2017), and a proxy for cultural health capital (Shim 2010). Respondents were asked the highest grade or year of school they completed, which we grouped into four categories: less than high school (reference category), high school degree, some college (or technical schooling), and a four-year college degree or higher. Approximately 14 percent of the pregnant women in the sample did not complete high school; 33 percent had completed a four-year college degree or higher.

Health care access and utilization: We include three dichotomous measures of health care access and utilization. The first indicates whether they have health care coverage, such as an health maintenance organization (HMO) plan, government plans, or Indian Health Services (1 = health insurance). The second specifies whether women skipped seeing a doctor in the past year because of cost (1 = skipped health care because it was unaffordable). The final dichotomous variable assesses whether women routinely use preventative care (1 = regular checkup in past year).

Other measures: We control for potentially confounding factors, including demographic characteristics: age (18-24; 25-29; 30-34; 35 and older), race/ethnicity (non-Hispanic white or Hispanic/non-white), relationship status (married or a member of an unmarried couple = partnered; divorced, widowed, separated, or never married = not partnered), and number of children in the household (1, 2, 3 or more children). Additionally, we account for two economic measures: employment status and household income (less than $25,000, $25,000-49,999, $50,000-74,999, and $75,000 or more).

Most variables had less than 2 percent missing, but about 4 percent were missing data on routine check-ups in the past year and about 12 percent were missing data on household income. Missing data may produce biased coefficients and standard errors; thus, we use multiple

imputation (Little & Rubin, 2014). We first created 20 full datasets by multiple imputation by chained equations, and then combined results across these datasets while accounting for variance in imputed values across datasets.

Health Behaviors and Information During Pregnancy Study (HIBPS)

Our qualitative data are drawn from the Health Information and Behaviors During Pregnancy Study. The study includes multiple parts: survey interviews of pregnant women (N = 225); in-depth interviews with 39 of the survey respondents; and in-depth interviews with 14 of their health care providers.

We recruited pregnant patients in four health clinics in two large Midwestern cites over the course of thirteen months (November 2009-November 2010). Women were eligible for the initial survey interviews if they were at least 18, pregnant for the first time, under 27 weeks pregnant, and spoke English. Each month, respondents were stratified into three education categories and two were randomly selected from each strata to participate in hour-long in-depth semi-structured interviews. Interviews took place at the beginning of their third trimester. The in-depth interview sample includes eight pregnant women with no college degree, sixteen with a college degree, and sixteen with a graduate or professional degree.

While our survey interview sample includes 225 pregnant women, we focus our analyses on the in-depth interview sample (N=39). Most respondents completed the survey during their first trimester, a time when early symptoms of pregnancy (i.e., nausea, dizziness) may have prevented them from drinking. The in-depth interviews were conducted at the beginning of the third trimester, at which point those symptoms have typically subsided. Thus, the in-depth

interviews likely provide a more accurate picture of women's decisions about drinking during pregnancy.

Our sample also includes 14 half-hour in-depth interviews with health care providers—including six obstetrician/gynecologists, six certified nurse midwives, and two registered nurses. Each provider cared for at least five HIBPS survey interview respondents. All in-depth interview participants received a $20 gift card for their participation. The study was approved by the [BLINDED] Institutional Review Board and by the ethics boards associated with the health clinics. All participants provided informed consent.

[Table 2 – Age and Educational Attainment of Respondents and Partners (HIBPS)]

[Table 3 – Health Care Provider In-Depth Interviews (HIBPS)]

METHODS

We begin by using the BRFSS to examine rates of prenatal alcohol consumption. Specifically, we compare rates of reported binge drinking during pregnancy (an accepted risk) to rates of reported light-to-moderate drinking during pregnancy (a contested risk) for pregnant women and for all women. For each group (all women; pregnant women) we also examine how social class (educational attainment) predicts alcohol consumption, using multinomial logistic regression analysis to estimate whether educational attainment is associated with binge drinking (compared to not drinking at all) and with light-to-moderate drinking (compared to not drinking at all). Next, we repeat these analyses, adding controls for health care access and utilization, other demographic characteristics (i.e., age, race/ethnicity, relationship status, and number of children in the household) and economic indicators (i.e., income, employment status). All analyses were conducted using Stata 15.0, and results are weighted and account for complex survey design. In the interest of transparency, we are committed to sharing our data and our code from our analysis

of the BRFSS.

We report logit coefficients as average marginal effects (AME), an approach that includes observed data for all covariates instead of the means of each covariate. For instance, the AME predicts the difference in the average probabilities of prenatal alcohol consumption among a hypothetical group of women who did not complete high school to a hypothetical group of women who completed a college degree. Additionally, because they are not susceptible to changes in unobserved heterogeneity, the AME allow for comparisons of coefficients across models even when they include different covariates (Mood 2010).

The in-depth interviews with pregnant women in their third-trimester women allow us to examine how these respondents perceive the risks associated with different levels of alcohol consumption and how they respond to those potential risks. These interviews preserve women's own accounts and reveal the factors that ultimately shape women's decisions about whether and how much to drink. Interviews with women took place outside of the health clinic at a location of their choosing, affording privacy. Respondents were eager to discuss subjects related to their pregnancies, and alcohol consumption was no exception. All 39 women were asked about their alcohol consumption, and 29 out of 39 talked in considerable detail about alcohol-related decisions.

The provider interviews offer important context for understanding women's decisions about drinking during pregnancy. These providers described what they tell their patients—including women who completed the in-depth interviews—about prenatal alcohol consumption. Thus, their responses offer a window into the professional advice and information women are receiving and that might (or might not) ultimately influence their decisions. All but one interview with providers took place within clinics in a private room. During interviews, health care

providers were asked to describe their interaction with prenatal patients around health topics, including alcohol consumption, vaccine use, smoking, and seat belt use.

We used Atlas.ti qualitative software to organize and code the data. We began with an inductive approach, reviewing each transcript multiple times to identify themes around alcohol consumption (Lofland, Snow, Anderson and Lofland 2006). We then grouped interviews into three educational categories (i.e., less than a college degree, college degree, and graduate or professional degree), re-read the interviews, and looked for patterns in women's alcohol-related decisions and in their "accounts" (Scott and Lyman 1968)[5] of those decisions. We also looked for and attempted to explain disconfirming evidence (e.g., women whose drinking behavior or accounts did not match the larger pattern for their social class group). We used a similar approach when coding interviews with health care providers, but without stratifying by educational attainment. We also used provider interviews to validate what women told us about the alcohol-related information and advice they received from providers.

RESULTS

Accepted vs. Contested Risks

Our goal is to understand how patients respond to ambiguous information about health risks. Alcohol consumption during pregnancy represents a useful test case for our questions, as it encompasses both accepted and contested risks. In interviews, patients and providers clearly described binge drinking as an accepted risk. They all viewed binge drinking during pregnancy as harmful, and they pointed to consistent information about the potential risks. Meanwhile, light-to-moderate alcohol consumption was a contested risk. Some patients (and even some providers) raised questions about the harmfulness of light-to-moderate drinking during pregnancy and described inconsistent information about alcohol-related risks.

Some prenatal health care providers treated both heavy and light drinking during pregnancy as "unsafe." Dr. Wilson, an Obstetrician/Gynecologist, described what she tells her patients about alcohol consumption, noting:

> Well, I say that no amount of alcohol has been determined to be safe in pregnancy. I tell them that… we don't have any good data to show what level of alcohol is safe, if there is a level. I give the [American College of Obstetricians and Gynecologist] party line!

Following that "party line" meant discouraging both heavy drinking and light drinking. Similarly, Williams, a Certified Nurse Midwife, described how she responds when patients ask about light-to-moderate alcohol consumption:

> I also hear it in the alcohol realm. "Well, my doctor told me last pregnancy that I could have a few drinks now and then." And I'll say, "You know that used to be advice. The current information does not support that."

All the health care providers in our sample viewed binge drinking as unsafe during pregnancy. Some providers, like Wilson and Williams, extended that "unsafe" designation to light-to-moderate drinking, as well.

Other providers, meanwhile, distinguished between heavy and light drinking, acknowledging that the danger likely depends on the amount and frequency of alcohol consumed. As Dr. Anderson, an obstetrician explained:

> I don't in any way support women drinking alcohol during pregnancy. But if they come in and they've had drinks before they knew they were pregnant and they feel horribly guilty about that, then I really try to reassure them that the chance of anything having occurred [is very small]… unless they're really heavily engaged in drinking. But if it's been moderate social use, to just reassure them and that we don't expect that should be a problem. It's not an indication for termination or anything like that. Going forward, you know, if women want to have a half a glass of wine or a sip of wine or something at an event, that's not going to do any harm.

Like Dr. Anderson, some providers treated binge drinking as much more dangerous than "social" drinking. Thus, within the medical community, binge drinking during pregnancy is an accepted risk, while light-to-moderate drinking is a more contested risk.

That same pattern could be seen among the pregnant women. All the women in the sample viewed binge drinking as unsafe, and they all stopped binge drinking (or reported stopping) to avoid the risks. For example, before becoming pregnant, Kimberly, who had less than a college degree, would binge drink about once a month. As she explained:

> *Kimberly*: I didn't really drink a lot before I got pregnant. Maybe like one weekend a month or something but I'd get pretty drunk on that one weekend a month, so…
>
> *Interviewer*: And so would you have more than like more than three drinks in a night?
>
> *Kimberly*: Yeah.
>
> *Interviewer*: More than five drinks a night?
>
> *Kimberly*: Probably, yeah.

Kimberly also engaged in binge drinking before realizing she was pregnant. As she explained: "I was scared because I didn't know for the first month and I had drank probably once or twice pretty heavily in that first month." Like Kimberly, women who drank heavily reported quitting as soon as they learned they were pregnant. And they did so because they were very worried about the possible risks.

Meanwhile, light-to-moderate drinking elicited a more varied response from pregnant women. Some insisted that even small amounts of alcohol could be harmful during pregnancy, saying things like "I wouldn't even fathom drinking" (Lisa; no college). Other women suggested instead that drinking "in moderation" was unlikely to cause significant harm. Thus, while pregnant women treated binge drinking as an accepted risk, the riskiness of light-to-moderate drinking was more contested.

Educational Attainment and Prenatal Health Behaviors in the United States

Having established heavy and light drinking during pregnancy as examples of accepted and contested risks, our next step is to understand how pregnant women make decisions about different types of risk. We do so, first, using data from the BRFSS. We begin by examining rates of binge drinking and light-to-moderate drinking among all women and among pregnant women. Building on prior research linking social class and responses to ambiguity (Calarco 2014; McPherson and Sauder 2013), we also examine how different levels of alcohol consumption are associated with educational attainment among all women and among pregnant women.

The results of these analyses can be found in Table 4, which shows the results of logistic regression models with coefficients presented as the average marginal effect of the covariates on each of the health behaviors (binge drinking and light-to-moderate drinking). Among pregnant women in the BRFSS sample, we find that educational attainment is positively associated with light-to-moderate drinking but not with binge drinking. The association is robust after accounting for demographic and economic measures and for health care access and utilization—which were also significant predictors of alcohol consumption.

[Table 4 – AME on Health Behaviors Among Women, BRFSS 2011-2015]

Figure 1 provides a visual depiction of the results in Table 4, showing the predicted probabilities for light-to-moderate and binge drinking for all women and for pregnant women in the BRFSS. In these figures, all other variables are set at their means. The results depicted correspond to those presented in models 1b, 2b, and 3b in Table 2. Alcohol consumption is relatively rare during pregnancy, yet clear educational gradients emerge. Pregnant women with a college degree had a 0.08 probability of light-to-moderate alcohol consumption, compared to a

probability of 0.03 among women who did not complete high school. These findings are also consistent with prior evidence of educational differences in alcohol consumption among pregnant women (Lundsberg et al. 2015).

[Figure 1 about here]

The positive association between educational attainment and light-to-moderate alcohol consumption during pregnancy may seem paradoxical, especially given research linking educational attainment to "healthier" behaviors among both pregnant patients and patients more generally (Lutfey and Freese 2005; Phelan, Link, Diez-Roux, Kawachi, and Levin 2004; Masters, Link, and Phelan 2015). Consistent with those prior findings, our supplementary analyses of the BRFSS data revealed that pregnant women with higher levels of education were much less likely to smoke cigarettes and much more likely to use their seatbelts consistently in the car (models available upon request).

Juxtaposed against these findings, the association between higher educational attainment and drinking during pregnancy is even more unusual. Thus, we use our interviews with pregnant women and their healthcare providers to explain this apparent paradox, revealing why patients with higher levels of education were more inclined to drink—at least at low levels—during pregnancy.

Logics and Strategies of Prenatal Alcohol Consumption

Our quantitative data reveal that the link between educational attainment and risk behaviors during pregnancy depends on whether those risks are accepted or contested. Our in-depth interviews with third-trimester pregnant women support a similar conclusion and reveal key mechanisms that produce those patterns.

More specifically, our interview data reveal that patients respond differently to accepted and contested risks and that those differences are closely linked to social class. In the context of accepted risks, pregnant women with different levels of education drew on similar logics (Calarco, 2014b; Dimaggio & Markus, 2010) to assess the possibility of danger and decide how to proceed. As noted above, all the women in the interview sample stopped binge drinking (or reported stopping) as soon as they became pregnant, and they all perceived heavy drinking as unsafe. In the context of contested risks, on the other hand, pregnant women did not all use the same logics to assess the possibility of danger, and, as a result, they responded to those potential dangers in different ways. Instead, women's perceptions of and responses to contested risks (light-to-moderate drinking) were closely linked to educational attainment. As we will discuss in more detail below, the clearest differences were between women without bachelor's degrees, women with only bachelor's degrees, and women with advanced degrees.

Of course, those education-related patterns were not perfect. As Table 5 shows, the links between education and perceptions of/responses to contested risk were much less pronounced for women who did not drink prior to pregnancy. And even in the case of women who did drink prior to pregnancy, there were some who did not follow the larger education-related patterns. As we will explain in more detail below, those variations were closely linked to input from women's social networks, and especially to input from their partners. In the interest of clarity and brevity, we begin with the education-related patterns at the individual level (i.e., women's own educational attainment), focusing on the women who drank at least occasionally prior to becoming pregnant. We then go on to discuss and explain exceptions to these patterns.

[Table 5 – Drinking Behavior and Perceptions of Risk Associated with Prenatal Alcohol Consumption by Education, HIBPS]

"Not Even Tiramisu" – Women Without Bachelor's Degrees

Women without bachelor's degrees rarely questioned the risks of light-to-moderate alcohol consumption during pregnancy. Instead, they viewed the risks of even light-to-moderate drinking as substantial and serious. During the survey interview, all women were asked: "Does drinking some, moderate amounts of alcohol during pregnancy definitely increase, probably increase, probably not or definitely not increase in the chance of miscarriage?" They were asked similar questions about low birth weight and birth defects. As Table 5 shows, women without bachelor's degrees perceived even light-to-moderate amounts of drinking during pregnancy as very risky. None of the women in this group chose "definitely does not increase" for any of the three risk outcomes, and most chose "definitely increases" for all three risk outcomes.

Consistent with those views, all the women without bachelor's degrees reported abstaining from alcohol. They did so instinctively and without question. When asked if they consumed any alcohol during their pregnancies, most responded quickly and emphatically. Julie, for example, responded: "No. Absolutely not." Similarly, Amber responded "Not even tiramisu."

Women without bachelor's degrees wanted to avoid any risk, and they seemed to view any alcohol consumption as almost automatically dangerous. For example, talking about why she and her friends opt not to drink during pregnancy, Amber explained: "we wouldn't want to do anything to harm our fetuses, our babies."

Less-educated women also abstained as a way to avoid social judgment from friends, family members, and health care providers. During an interview, for example, Jasmine was asked if she talked with members of her social network about drinking alcohol during pregnancy. When asked about the father of her baby, she responded: "No. He knows I'm not going to, he knows I'm not going to drink it." Jasmine used similar language to describe what other members of her

family would say about alcohol consumption during pregnancy, including her brother: "I really don't remember if we've talked about it but I know he disagrees with that. Like, he wouldn't want me to drink." The idea that people around them "wouldn't want" them to have any alcohol was pervasive among women without bachelor's degrees. And their desire to avoid such disapproval reinforced the decision not to drink at all.

Interactions with providers also discouraged women without college degrees from drinking even small amounts of alcohol. In clinics serving less-educated women, providers regularly asked women about their alcohol use, resulting in a dynamic of social control similar to that described in previous research on social class and patient-provider interactions (van Ryn & Burke, 2000). As Garcia, a Certified Nurse Midwife, explained:

> At this clinic [university clinic], [alcohol is] not addressed again second and third trimester. But, at the community clinic [lower income], we have a lot of grants so there's a lot more intervention socially and risk assessment, lifestyle assessments done by the RNs because they room all of our patients and they're got grant parameters and requirements to meet, so they're doing, they call them ___, you know, kind of like a PHQ-9 with some other lifestyle stuff. And so those patients, that whole population of our patients are being screened.

Women at the community clinic, which predominantly served less-educated women, were routinely screened for alcohol use in the first, second, and third trimesters. In those interactions, the providers reinforced the idea that alcohol use, in any quantity, was dangerous and should be avoided throughout pregnancy.

Now, a few women without bachelor's degrees did report drinking some alcohol during their pregnancy, but they generally regretted that choice and ultimately stopped drinking. For example, Stacey, was asked if she had any alcohol during her pregnancy. She explained:

> I have, and I actually just decided no more because I've had like half a glass and I could just tell like my blood pressure going up and … So I'm not going to have any more alcohol…. I had half a glass of wine and I was like 'Aaah, I'm done.'

Like Stacey, women in the least educated group who drank during pregnancy usually reported regretting that decision. That included both women who drank before learning they were pregnant and women who tried small amounts of alcohol later on.

"It's Not Worth The Risk" – Women with Only Bachelor's Degrees

When it came to light-to-moderate alcohol consumption during pregnancy, women with bachelor's degrees did perceive some risk. In response to the aforementioned survey questions about the risks associated with prenatal alcohol consumption, none of the women in this group chose "definitely does not increase" for any of the three risk outcomes (miscarriage, low birth weight, and birth defects).

Unlike less educated women, however, women with bachelor's degrees also questioned those risks. For example, Kelly described how she felt about a friend who drank occasionally during pregnancy, noting:

> I don't think it's necessarily bad…. I feel like everything in moderation is okay. I don't know, if I were to see a stranger drinking a beer that was pregnant or smoking outside I would think horrible things about them. But I know [my friend is] rational and I know she knows what she's doing. And I know she's thought it through. It's not just like she has to have this beer so she's having it...

Compared to women with less education, pregnant women with bachelor's degrees rarely perceived light-to-moderate drinking as automatically dangerous to a developing fetus. They assumed that drinking small amounts of alcohol is not "necessarily bad."

Ultimately, however, most women with bachelor's degrees abstained from alcohol. They did so because they wanted to avoid even the smallest possibility of risk. Lauren, for example, was asked about her approach to health during pregnancy, and she explained:

> I guess if there's something I can do to reduce a risk. Or something that I can do to not make something more risky for the baby, like that stuff. Because it seems very practical.

> And if I can do that, take vitamin D, I will. You know, if I can not take a sip of alcohol, I won't.

Many of the women in this group reported strong feelings of pregnancy-related anxiety, especially when it came to assessing and managing contested risks. Adopting a strategy of constraint helped to alleviate that anxiety.

Essentially, women with bachelor's degrees saw complete abstinence from alcohol as the only way to guarantee protection from risk. Lauren, for example, went on to explain that she had not even had "one sip" of alcohol during pregnancy, and that even when she had been tempted, she declined, noting:

> There was one [time], my friend had some kind of fruity something and I smelled it. I was going to sip it and then I was like, 'Eeh. I don't need to do that.' So, I didn't (laugh)…. Like, if I ever drink, it's a social thing and I'll have one and I'll like the way it tastes. And if I don't like the way it tastes, it's just not worth it to me. And so I thought of all the times, if I'm pregnant, it should not absolutely be worth it at all. So I was like I don't need to drink that.

Like Lauren, women with bachelor's degrees wanted to make the safest choice for their babies. Thus, even when they were tempted to drink, most opted not to do so, feeling that it was "not worth" the risk.

Social pressure from friends and family also reinforced those decisions. Most women with college degrees reported that those around them would not agree with drinking alcohol during pregnancy. And some even reported receiving more direct admonitions against drinking. Lindsey, for example, reported having a few "sips" of alcohol during her pregnancy, "Like one of those things where everyone's drinking wine and so I'd pour myself like a, you know, a shot glass full of wine and sip on it throughout dinner." When asked about how others responded to her drinking, Lindsey recalled that she had gotten "some negative feedback." She went on to explain:

> When I discussed it later. Or, just people saying things. Sometimes people just tell you. And it's not even like you're talking about it. They just will be like, "Well, you're not drinking, are you?" I'm like, "No. No, I'm not drinking." "Well, you know, you can't have any alcohol, at all when you ...!" I'm like, "All right."

Like Lindsey, women with bachelor's degrees experienced pressure to abstain from alcohol during pregnancy, and that pressure reinforced their decision not to drink.

Interactions with providers also discouraged women with bachelor's degrees from consuming even small amounts of alcohol. The providers in the clinic these women attended recognized that light-to-moderate drinking was unlikely to be harmful. However, they did not trust patients to drink "safely," so they opted to simplify the message, encouraging abstinence from alcohol. As Dr. Thomas, an obstetrician, explained:

> I think personally, in general, a glass of wine in the third trimester is fine. But I don't think; I think it's hard to tell your patients that and have them … how they're going to take that. So like it's like giving the … you know, I think it gives some people false reassurance. Oh, well, if I can have one glass, maybe I can have more than that. And so I don't tell my patients that they can have alcohol.

Like Dr. Thomas, most health care providers revealed in interviews that, in giving advice about drinking during pregnancy, they erred on the side of caution, even if the answer was more complex, or if they disagreed with "the party line" to abstain.

Women with bachelor's degrees were already inclined toward caution in managing contested risks. As a result, they appreciated providers' simplified recommendations for avoiding those risks. Allison, for example, reported experiencing a "heightened awareness" of risks during her pregnancy. When asked about how often she worries about health-related issues during pregnancy, she explained:

> Probably a lot. Like I said, in the beginning, kind of maybe even almost to an extreme. I am very aware of everything, surrounding everything be it environmental things, to diet, to health things, to now, pregnancy, all the stuff that can arise there, most recently the gestational diabetes. I was like, "Okay, what is this all about, and if I have this, what is going to happen," blah, blah, blah. So I would say I'm almost to the point of ... I don't know. My husband wishes I would just chill out once in a while about things because it's most likely the case that I don't have gestational diabetes, that type of thing! So I would

> say it's ... it's definitely not obsessive or compulsive, but it's definitely maybe a very heightened awareness, more so than the normal person. And I'm even very aware of that, like it doesn't, I don't need to be as focused and as aware and as concerned about things as I sometimes am.

Given that kind of anxiety, women with bachelor's degrees appreciated providers who would give them clear guidance on how to avoid any possible risk. Allison, for example, went on to explain why she prefers to talk to the physicians rather than the midwives, noting:

> I'm very just direct and blunt and physicians tend to be a little more science driven and so therefore, I like where if my question's ridiculous or not ridiculous they're just like "yes" or "no." Or this or that. Or, you know, here's the low-down. Versus a midwife kind of baby-steps you through that a little bit more, which is very nice and great for some personalities, and I appreciate it as well. I just kind of relate more to the "just tell me" type of approach.

Like Allison, women with bachelor's degrees generally appreciated providers' clear, simple advice, especially when it allowed them to identify the most cautious approach for managing contested risks.[6]

Consistent with that cautious approach, even the few women with bachelor's degrees who did report drinking during pregnancy did so anxiously and with regrets. These women reported feeling pressured to drink in social situations, and they ultimately had (or at least reported having) only "sips" of alcohol. For example, when asked if she drinks any alcohol, Allison initially answered "[n]ot now when I'm pregnant." When pressed, Allison admitted:

> I've had a sip here or there, but I have not had more than a sip at any point in time. At social gatherings. For example, book club with my girlfriends. If they try a new wine, I taste the new wine. That's pretty much the extent of it.

When asked how people responded, Allison went on to explain:

> The only comments I've gotten from people about that, because this is my social networks, is it's probably okay if you want to have a glass. To which my response is: 'it's really not, really not worth it.'

Like Allison, some women in the moderately educated group did drink sips of alcohol on occasion, but they tended to do so because of social pressure, and they still tended to see alcohol consumption as "not worth it" overall.

"I'm Sure It's Fine" – Women with Advanced Degrees

Like the women in the other two groups, pregnant women with advanced degrees did not see light-to-moderate drinking as risk-free. As noted above, during the survey interview women were asked: "Does drinking some, moderate amounts of alcohol during pregnancy definitely increase, probably increase, probably not or definitely not increase in the chance of miscarriage/low birth weight/birth defects?" As with the other educational groups (see Table 5), none of the women in this group chose "definitely does not increase" for any of the three risk outcomes.

That said, and like women with bachelor's degrees, women with advanced degrees questioned the risks of light-to-moderate alcohol consumption during pregnancy. As Megan explained:

> If you drink in moderation and not excessively then it's okay. I mean, I'm not a lush. And I actually talked to a lady who is a professor… and she said she had a glass of wine every week and she was fine. Like one, yeah, so I was just kind of like, okay. Her babies are okay. I'm not being excessive. So, I was okay with it. I'm not drinking like hard liquor.

Women with advanced degrees did not see drinking during pregnancy as automatically dangerous. Unlike women with only bachelor's degrees, however, women with advanced degrees—like Megan—believed that light-to-moderate alcohol consumption was "okay" not only for other people, but also for themselves.

Pregnant women with advanced degrees also trusted themselves to manage the possible risks of alcohol consumption during pregnancy, and they created their own rules for drinking "safely."

For example, when asked how much she drinks during pregnancy, Rebecca noted “I’m okay with, like, a couple drinks a week.” She went on to explain:

> I think at the very beginning, especially before I was to the safe point, you know, out of the first trimester, I didn't. I remember on my birthday, which was … like right past, right around week twelve. I had a glass of wine. And then I think like in the past couple months I've been just feeling more relaxed about it and so I'll have a beer or when we go out and share some of my husband's.

Like Rebecca, women in the highly educated group made their own rules about drinking during pregnancy. Those rules varied from woman to woman, but they often included restrictions on the type of alcohol, the amount of alcohol, and the timing and frequency of alcohol consumption. By following those rules, women with advanced degrees believed they could safely manage potential risks.

Interactions with friends and family members reinforced the logics and strategies used by women with advanced degrees. Kathryn, for example, reported having beer with her husband and wine with her friends, noting:

> Just when we’re out and my husband tries some new beer and he thinks it's really good, so I just want to taste a little bit. And the wine is when we went out to a friend's house and she... it just looked so good. So, yeah. I like cold wine, so yeah. And she [my friend] said it's pretty light and it's fruity. So I just tried a little bit.

When it came to drinking alcohol during pregnancy, women with advanced degrees rarely had to worry about judgment from their friends and family members. In fact, friends and family members were often the ones offering them alcohol.

Interactions with providers also reinforced the highly-educated women’s willingness to engage in light-to-moderate drinking during pregnancy. In most cases, providers did not ask these women about their alcohol consumption and the women did not ask for advice. Providers at the university health clinic (which served predominantly more educated women) explained that women were asked about alcohol only at the beginning of their pregnancy and not during the

second or third trimester. Thus, they only discussed alcohol with women who asked about it. And women with advanced degrees rarely did so. As Rebecca explained:

> I never asked them [health care providers] specifically about alcohol either, but from what I've heard from other people. You know, everything you read is like, '[o]h, of course it's best to not have any at all.' But, what I've read between the lines is pretty much every doctor is like, '[y]eah, but it probably won't hurt to have a couple a week, either!' So, and just judging on that people did it forever before the last like fifteen years, I don't think it hurts.

The lack of discussion about alcohol in interactions with providers allowed women with advanced degrees, like Rebecca, to "read between the lines" and come to their own conclusions about the riskiness of drinking small to moderate amounts of alcohol during pregnancy.

Furthermore, when women with advanced degrees did discuss alcohol with their providers, they often used those interactions to question their providers' overly simplified advice. Rodriguez, a midwife, described the kinds of questions she got from highly educated patients, noting:

> Just how much is okay, like how much is really okay. "I know they say not to drink at all, but how much is really okay? What do you think? What did you do?" And then we talked about this before, but people talk about it on message boards and social networks and things like that about what they do in Europe and what's okay in Europe and, "My friend's OB said such and such amount was safe." So, women talk about it a lot…. And I have had people say to me, "I am drinking a glass of wine with a meal once a week. And you're going to tell me that it's not okay but I'm still going to do it."

Interviews with highly educated pregnant women confirmed that willingness to push back against providers' overly simplified advice regarding alcohol and pregnancy. As Heather explained:

> That one [alcohol] is one that has bothered me for years, like before I even thought I was going to get pregnant because it really ticks me off the way they've simplified it so much. To just say like, "You should never have anything," when from, I mean, I never was paying a ton of attention to it, but I had a friend who was pregnant and she was in France and she had some issue come up and she went to the doctor. And he said, "Well, you should just have a drink and relax." And he said, "Oh wait, I'm sorry. You're American. You probably won't do that." And it just got me thinking like well this isn't like a like obviously if every baby born in France had fetal alcohol syndrome, they would not be doing... You know what I mean? Like… it seems like we just have like gone to the easier

> message to tell people "just don't do it" because it's easier. And I always felt like it was sort of talking down to women and sort of obnoxious, so I had opinions about it!

Like Dr. Thomas, quoted in the previous section, providers often simplified the evidence when giving patients advice about drinking during pregnancy. Women with advanced degrees, however, tended to be critical of providers who they perceived to be overly cautious in managing risk.

When confronted with that kind of pushback from highly educated women, providers were often willing to acknowledge that the medical evidence regarding drinking during pregnancy is not as straightforward as the standard advice would make it seem. Garcia, a Certified Nurse Midwife, described how she would respond if a patient pushed back against the standard restrictions on alcohol consumption during pregnancy:

> [If] a woman kind of says, "Well, I went to my sister's wedding and I had a glass of champagne," I'd be like, you know…
> EH: Okay?
> AP: I would just be reassuring about that.

Similarly, Martinez, a Certified Nurse Midwife, reported that she would be willing to concede that light-to-moderate drinking is "fine," especially if a patient asked in a non-professional setting.

> I would have to say very honestly that I have questions about the information that's given to pregnant women about some of these … I know a lot of young women who are pregnant who will have a glass of wine once a week. And in reality, if they were asking me in a nonprofessional role, I think I would say, "That's fine."

Many of the women with advanced degrees had friends or family members who were physicians. Amanda, for example, noted that her brother-in-law's brother is a doctor and that his pregnant wife was drinking alcohol during a family Christmas party. Those social connections gave highly educated women opportunities to interact informally with health care providers, to discuss health

care providers' more nuanced views on drinking during pregnancy, and to push back against overly simplified advice.

Of course, not all women with advanced degrees drank (or reported drinking) during their pregnancies. However, many of those who did not drink still reported that they would be comfortable doing so in theory. For example, some women with advanced degrees thought they would drink but ultimately found the smell or taste of alcohol to be off-putting during pregnancy. As Danielle explained:

> I think once I was actually pregnant, I thought I'd be like, "Oh yeah, I'll have a little. Who cares? You know, it's fine." But I definitely would say I've had a lot less than I [thought]. Like, I mean I thought maybe I'd have a glass of wine here and there but I really haven't.

Like Danielle, there were some women in the highly educated group who did not drink during their pregnancies. However, many of those women reported feeling very comfortable with the idea of light-to-moderate alcohol consumption, and some held open the possibility of drinking during their final trimester.

Variations and Exceptions to the Rule

Of course, these patterns were not perfect. As Table 5 showed, some less-educated women did drink during pregnancy and some highly-educated women opted not to do so. In some cases, those variations reflected women's pre-pregnancy drinking habits. Not surprisingly, none of the women who abstained from alcohol prior to pregnancy opted to start drinking after becoming pregnant. Some of those women abstained for religious reasons. Others abstained because of health conditions. Still others simply preferred not to. As Tracy, who had a college degree, explained: "I'm not into smoking, alcohol, and I keep away from all that and I'm very particular about my health and the way I take care of myself." Women who abstained prior to pregnancy

rarely had much to say to say about drinking during pregnancy. For example, Jenna, who had a college degree, simply said: “I don’t drink alcohol so it’s not an issue.” Similarly, when asked about conversations with her health care providers about drinking during pregnancy, Alicia, who had an advanced degree, explained: “I was never a drinker anyway, so I just say ‘Don’t even have this concern about me.’” In most cases, women who abstained prior to pregnancy treated alcohol as bad or dangerous at all times, including during pregnancy.

Other variations in women’s logics and strategies were related to advice and pressure from their social networks. Social networks often exhibit high levels of homophily (M. McPherson, Smith-Lovin, & Cook, 2001). Marriages, for example, are often homogamous with respect to educational attainment (Blossfeld, 2009). And yet, some women had spouses, parents, friends, and colleagues whose educational attainment did not match their own. Those cross-class relationships affected the messages women heard about the risks of drinking during pregnancy, and those messages sometimes affected the decisions that women made. Erica, for example, had a college degree, but her husband did not. Erica’s husband was “very anti” drinking during pregnancy. Meanwhile, Erica had a colleague whose wife had “a glass of wine once in a while” while she was pregnant and who told her that drinking during pregnancy, especially during the third trimester, was “fine.” When asked if she had any alcohol during her pregnancy, Erica explained:

> No. Not so far. I mean, I'm kind of… I know that like in the third trimester a lot of people say it's okay to have a little bit of wine or something. But [my husband] is very anti that so I'm respecting him. I mean, I've made it this far, that it's not really that big of an issue.

Even some of the healthcare providers, who were themselves highly educated women, reported getting pushback from their spouses about drinking alcohol during their own pregnancies. As Dr. Thomas, an Obsetrician/Gynecologist, recalled:

> I think it's pretty accepted. I mean, it's usually like my girlfriends who are OBGYNs. We'll have a glass of wine and I think all of us are all doctors and so are more accepting of it. I think like some of our husbands who aren't in medicine have questioned it more.

Essentially, women whose networks were not homogeneous with respect to educational attainment tended to receive more mixed messages about alcohol consumption during pregnancy, and those messages sometimes shaped women's decisions about managing risk. Those findings, however, ultimately provide further evidence of how social and structural forces—like educational attainment and social class more generally—guide pregnant women's decisions about contested risks.

Discussion

As medical advances have improved our capacity to identify potential health risks, patients have been held increasingly responsible for avoiding those risks (Clarke et al., 2009). That is particularly true for pregnant women, who are expected to avoid everything from cigarettes and alcohol to sushi and deli meat (Barker, 1998; Burton-Jeangros, 2011; Hammer & Burton-Jeangros, 2013; Waggoner, 2017). In some cases, however, information about those potential risks is inconsistent (Casiday, 2007; Waggoner, 2013). Our goal in this study is to understand how that ambiguity impacts the decisions patients make in managing their health.

Drawing on a mixed-methods study of alcohol consumption during pregnancy, we find, first, that doctors and patients treat binge drinking as an accepted risk and light-to-moderate drinking as a contested risk. Next, we show that patients respond differently to accepted and contested risks. Specifically, we find that pregnant women's decisions about contested risks (but not accepted risks) are contingent on social class. Paradoxically, however, these patterns reveal an inverse correlation between educational attainment and "healthy" behaviors, with more educated women being more likely to report drinking some alcohol during pregnancy. Our

interview data help to explain these patterns. We find that, in the context of contested risks (but not accepted risks), highly educated women are willing to challenge medical authorities and trust their own expertise in managing potential risks. Meanwhile, women who do not have advanced degrees rely on their healthcare providers to help them make sense of contested risks. Interactions with providers also reinforce those decisions, as pushback from highly-educated women prompts at least some providers to soften their hard-line stance on drinking during pregnancy. Meanwhile, in clinics serving less-educated women, routine screenings for alcohol discourage pushback and reinforce the standard hard-line view.

These findings have important implications for research, policy, and practice. First, our findings highlight the necessity of distinguishing accepted and contested risks. In the medical literature, potential risks are often treated the same, regardless of whether research provides consistent evidence of serious harm. And yet, as we see here, differentiating accepted and contested risks can help sociologists and health care providers alike to better understand the decisions patients make in managing potential risks. Only by acknowledging and examining the socially constructed nature of risk (MacKendrick, 2018; Tierney, 1999) are we able to see how social class shapes pregnant women's responses to potential risks and why it does so in potentially paradoxical ways.

Second, our findings suggest that by examining ambiguous and contested risks, we can better understand how social class shapes patients' health-related decisions. Research in non-medical settings (Calarco 2014; McPherson and Sauder 2013) suggests that ambiguity prompts individuals to look to their own (social class-based) experiences—and not to experts or officials—for guidance in making decisions about how to proceed (Calarco, 2014b; C. M. McPherson & Sauder, 2013). Consistent with those findings, our research suggests that contested

risks (but not accepted risks) prompt pregnant women to respond in class-based ways. Pregnant women without bachelor's degrees do not question the potential risks of drinking, even in small amounts, and they worry about the possibility of social sanctions—from their family members, friends, and healthcare providers—for not following standard medical advice. Meanwhile, pregnant women with only bachelor's degrees acknowledge that the risk of light-to-moderate drinking is probably small, but they ultimately decide to follow their providers' advice, as they believe that it is not "worth it" to risk even a small possibility of harm. Finally, pregnant women with advanced degrees openly question the danger of light-to-moderate drinking during pregnancy, and they exploit the ambiguity around this contested risk to challenge providers and develop their own rules for managing the potential risks of alcohol consumption during pregnancy. Given such findings, future research should look for and examine other health-related ambiguities. Those ambiguities are likely to increase the salience of social class in patient decisions and in patient-provider interactions. In doing so, they may contribute to larger patterns of health-related inequality.

Third, our findings suggest that research on health-related inequalities would benefit from a more network-based model of social class. While there were clearly education-linked patterns in pregnant women's alcohol-related decisions, there were also exceptions to those patterns. In most cases, those exceptions appeared to be driven by the advice, information, and pressure pregnant women experienced from others in their social networks. Unfortunately, our data do not allow us to systematically identify the social class backgrounds of the friends, family members, and colleagues in women's social networks. Nor do they allow us to determine whether the pregnant women in our sample are upwardly (or downwardly) mobile. That said, our qualitative data do suggest that upwardly mobile women and those in the middle education group

(bachelor's degree only) may receive more conflicting messages from those around them. If that is the case, and given prior research on upwardly mobility and cross-class marriages, it could explain why some pregnant women are more hesitant about adopting the views and practices associated with their own level of education. In terms of our data, this could explain why some women, and especially those with college or advanced degrees, opted not to drink during pregnancy, even when they had friends or colleagues who encouraged them to do so.

Fourth, our findings suggest that attention to health-related ambiguity and contested risks can help to explain why patients sometimes behave in paradoxical ways. Research on health-related inequalities typically finds a positive association between educational attainment and "healthy" behaviors (Lutfey & Freese, 2005). However, in the case of light-to-moderate alcohol consumption during pregnancy, we find the opposite pattern—the least-educated women are the ones most likely to follow providers' recommendations and abstain (or at least report abstaining) from alcohol. Our findings help explain this apparent contradiction. Specifically, we find that contested risks create opportunities for patients to push back and challenge providers' recommendations, but only highly educated women feel entitled to take advantage of those opportunities. Such findings are consistent with patterns observed in non-medical settings. In education, for example, highly educated parents are the ones who most often comply with teachers' expectations for parental involvement in schooling (Lareau 2000; Robinson and Harris 2014). However, they are also the ones who feel most entitled to push back (and encourage their children to push back) and challenge teachers' authority (Calarco, 2014a; Lareau & Calarco, 2012). And those challenges often happen in what Calarco (2014) calls "ambiguous moments." Taken together, these findings reveal how ambiguities activate class-based entitlement and how that activation can lead to conflict between privileged people and professional authorities.

Fifth, our findings reveal how social class differences in patient-provider interactions reinforce social class differences in patients' health-related decisions. As noted above, we find that health care providers subject less educated pregnant women to greater scrutiny and greater social control (see also Lutfey & Freese, 2005; van Ryn & Burke, 2000). Providers described rotating through clinics serving less-educated patients where pregnant women where routinely screened patients for alcohol consumption, and those screenings reinforced to women that alcohol should be avoided and that they would be judged for failing to follow those recommendations. Meanwhile, at clinic serving more educated pregnant women, patients were not routinely screened for alcohol use. Thus, it was up to patients to decide whether to talk to their healthcare providers about drinking during pregnancy. And, that flexibility seemed to encourage patients to rely more heavily on their own class-based logics and strategies of action when making decisions about alcohol consumption during pregnancy. More generally, we also found that while providers recognized that drinking small amounts was unlikely to be harmful, they did not trust patients to drink "safely." Thus, providers opted to simplify the message, encouraging abstinence from alcohol. Given such findings, we argue that it is important for researchers and health care providers to consider how social class differences in doctor-patient interactions might reinforce social class differences in patients' comfort questioning standard medical advice and, in doing so, contribute to class-based inequalities in the power that patients have to make their own decisions about managing risk.

Finally, we argue that the better-safe-than-sorry approach prevalent in contemporary American medicine (and especially obstetric medicine) may be problematic. With that approach, patients are encouraged to avoid potentially risky behaviors even if the evidence of harm is weak or inconsistent. Essentially, then, a better-safe-than-sorry approach to medical recommendations

increases the number of contested risks. And, that increase in contested risks is problematic. As noted above, contested risks reinforce class-based inequalities in relationships between patients and providers. They subject less educated, less affluent patients to closer and more frequent scrutiny while simultaneously creating opportunities for more educated, more affluent patients to take greater control of their own health and health-related decisions.

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Notes

[1] It is important to note that American society has not become more risk-averse over time. Instead, we have become more concerned with calculating and predicting risks (Giddens, 1999)

[2] Similarly, research on public perceptions of environmental risks has found that white men express, by far, the lowest levels of concern about environmental risks (Flynn, Slovic, & Mertz, 1994). The authors conclude that those perceptions are likely to be a function of white men's status and power in American society.

[3] Women were asked if they were pregnant after they were asked about other health behaviors.

[4] For comparison, ten percent of women reported smoking, and six percent reported inconsistent seat belt use.

[5] According to Scott and Lyman (1968: 46), individuals feel compelled to provide narrative "accounts" for choices that may be "subjected to valuative inquiry."

[6] Women with bachelor's degrees did not always defer to their health care providers. Rather, women in this group were willing to reject medical advice if they saw that advice as insufficiently cautious. One woman, for example, was skeptical when her provider told her she could take Tylenol and antacids during pregnancy, noting: "Tylenol... have they proven that it is safe or they just haven't seen any problems with it that they can directly correlate? You know what I mean? Sometimes it's crazy to me that we act, the medical community acts like they know all these things for certain but they've been wrong in the past and they don't find that out until X years later." Essentially, women with bachelor's degrees were willing to reject providers' advice if they believed that advice was not cautious enough.

Table 1. Measures from the Behavioral Risk Factor Surveillance System (BRFSS) 2011-2016

	All Females		Pregnant	
	%/Mean	(SD)	%/Mean	(SD)
Alcohol Consumption				
No alcohol use	0.485	0.500	0.900	0.301
Alcohol use, no binge drinking	0.345	0.475	0.069	0.254
Binge drinking	0.170	0.376	0.031	0.174
Educational Attainment				
Educational degree				
Less than high school degree	0.136	0.342	0.160	0.367
High school degree	0.244	0.429	0.256	0.436
Some college or associate's degree	0.341	0.474	0.288	0.453
Bachelor's degree or more	0.279	0.449	0.296	0.457
Health Care Access and Utilization				
Health insurance (reference category = no)	0.796	0.403	0.873	0.333
No health care in last year because of cost (reference category = no)	0.216	0.411	0.173	0.379
Routine medical check-up in past year (ref category = no)	0.658	0.474	0.691	0.462
Demographic				
Age categories				
18-24	0.270	0.444	0.300	0.458
25-29	0.169	0.375	0.282	0.450
30-34	0.200	0.400	0.266	0.442
35 and older	0.361	0.480	0.152	0.359
Race/Ethnicity				
Non-Hispanic White	0.563	0.496	0.529	0.499
No partner (divorced, widowed, separated, or never married)	0.496	0.500	0.354	0.478
Children in household				
no children in household	0.343	0.475	0.318	0.466
1 child in household	0.233	0.423	0.327	0.469
2 children in household	0.243	0.429	0.205	0.404
3 or more children in household	0.181	0.385	0.150	0.357
Economic Indicators				
Income				
Less than $25,000	0.375	0.484	0.409	0.492
$25,000-$49,999	0.237	0.425	0.218	0.413
$50,000-$74,999	0.134	0.341	0.122	0.327
$75,000 or more	0.254	0.435	0.251	0.434
Unemployed (reference category = employed)	0.168	0.374	0.186	0.389

Note: N = 329,206 for all females and N = 13,029 for pregnant subsample. All estimates are weighted and account for complex survey design.

Table 2. Age and Educational Attainment of Respondents and Partners, Health Information and Behaviors During Pregnancy Study

			Individual Educational Attainment				*Partner Educational Attainment*				
	Pseudonyms	age	graduate or professional degree	college degree	some college or associate's degree	high school degree or less	graduate or professional degree	college degree	some college or associate's degree	high school degree or less	no partner
High education	Heather	41	x					x			
	Nicole	31	x				x				
	Michelle	30	x				x				
	Megan	34	x				x				
	Rachel	30	x				x				
	Christina	31	x				x				
	Amanda	32	x				x				
	Jennifer	38	x				x				
	Melissa	28	x					x			
	Danielle	29	x					x			
	Angela	30	x					x			
	Erin	34	x				x				
	Rebecca	28	x				x				
	Whitney	30	x				x				
	Alicia	34	x				x				
	Kathryn	34	x					x			
Medium education	Courtney	31		x			x				
	Kristen	26		x				x			
	Allison	36		x			x				
	Crystal	29		x			x				
	Lauren	28		x			x				
	Brittany	31		x			x				
	Stephanie	38		x					x		
	Emily	28		x					x		
	Kelly	30		x					x		
	Erica	27		x					x		
	Lindsey	29		x				x			
	Holly	31		x			x				
	Jenna	28		x				x			
	Kara	32		x				x			
	Tracy	27		x			x				
	Caitlin	38		x				x			
Low Education	Amber	34			x				x		
	Kimberly	32			x				x		
	Stacy	29			x			x			
	Monica	35			x					x	
	Lisa	30			x				x		
	Jasmine	20				x					x
	Julie	21			x					x	
	Samantha	20			x					x	

Table 3. Health Care Provider In-Depth Interviews, Health Information and Behaviors During Pregnancy Study

Pseudonyms	Position
Smith	Registered Nurse
Johnson	Registered Nurse
Williams	Certified Nurse Midwife
Brown	Certified Nurse Midwife
Jones	Certified Nurse Midwife
Miller	Certified Nurse Midwife
Davis	Certified Nurse Midwife
Garcia	Certified Nurse Midwife
Rodriguez	Certified Nurse Midwife
Martinez	Certified Nurse Midwife
Wilson	Obstetrician/Gynecologist
Anderson	Obstetrician/Gynecologist
Taylor	Obstetrician/Gynecologist
Thomas	Obstetrician/Gynecologist

Table 4. Average Marginal Effects on Health Behaviors Among Women, BRFSS 2011-2016

	All Females				*Pregnant Females*			
	Model 1a		Model 1b		Model 2a		Model 2b	
	Limited	Binge	Limited	Binge	Limited	Binge	Limited	Binge
Education Level								
Less than high school degree (reference category)	--	--	--	--	--	--	--	--
High school degree	0.098 ***	0.042 ***	0.072 ***	0.013 ***	0.016 *	-0.002	0.018 **	-0.003
Some college	0.178 ***	0.073 ***	0.131 ***	0.030 ***	0.028 ***	0.004	0.030 ***	0.006
College degree or higher	0.290 ***	0.079 ***	0.196 ***	0.032 ***	0.047 ***	-0.004	0.050 ***	0.005
Health Care Access and Utilization								
Health Insurance (reference category = no)			0.008 **	0.001			-0.021 **	-0.022 ***
Needed health care but could not afford (ref category = no)			0.006 **	0.026 ***			0.017 **	0.005
Routine medical check-up in past year (ref category = no)			-0.003	-0.017 ***			-0.013 **	-0.011
Demographic Characteristics								
Age								
18-24 (reference category)			--					
25-29			0.046 ***	0.007 **			0.002	-0.013 **
30-34			0.048 ***	-0.033 ***			0.007	-0.011 *
35 and older			0.065 ***	-0.062 ***			0.051 ***	0.004
Non-Hispanic White			0.022 ***	0.052 ***			-0.007	0.008 *
No partner			0.022 ***	0.061 ***			0.044 ***	0.036 ***
Children in household								
no children in household (reference category)			--					
1 child in household			0.002	-0.059 ***			-0.004	-0.020 ***
2 children in household			0.022 ***	-0.054 ***			0.004	-0.015 **
3 or more children in household			-0.026 ***	-0.077 ***			0.006	-0.011 *
Economic Indicators								
Income								
Less than $25,000 (reference category)			--					
$25,000-$49,999			0.055 ***	0.024 ***			0.017 *	0.006
$50,000-$74,999			0.085 ***	0.039 ***			0.017 *	0.010
$75,000 or more			0.129 ***	0.074 ***			0.027 **	0.016 **
Unemployed (reference category = employed)			-0.032 ***	-0.024 ***			-0.010	-0.010 *

Note: The subset comprised of all females was 329,206 and the pregnant subset was 13,029; all estimates are weighted and account for complex survey design. Models represent average marginal effects (AME) from multinomial logistic regression models.

*** p<0.001, ** p<0.01, * p<0.05 (two-tailed)

Table 5. Drinking Behavior and Perceptions of Risk Associated with Prenatal Alcohol Consumption by Education, Health Information and Behaviors During Pregnancy Study

			Perception of risk associated with prenatal alcohol consumption												*Pre-pregnancy drinking behavior*	
			Does drinking some, moderate amounts, of alcohol during pregnancy ____ the chance of miscarriage?				Does drinking some, moderate amounts, of alcohol during pregnancy ____ the chance of low birth weight?				Does drinking some, moderate amounts, of alcohol during pregnancy ____ the chance of birth defects?					
	Pseudonyms	Age	definitely increases	probably increases	probably does not increase	definitely does not increase	definitely increases	probably increases	probably does not increase	definitely does not increase	definitely increases	probably increases	probably does not increase	definitely does not increase	Number of drinks/week three months before pregnant	Number of times 5 drinks or more in a sitting during three months before pregnant
High education	Heather	41			x				x				x		0.5	0
	Nicole	31		x				x				x			1.0	0
	Michelle	30		x				x				x			2.0	0
	Megan	34		x				x				x			2.0	1
	Rachel	30		x				x				x			2.0	0
	Christina	31			x				x				x		3.0	0
	Amanda	32			x				x				x		3.5	1
	Jennifer	38		x				x				x			3.5	0
	Melissa	28	x				x				x				4.0	1
	Danielle	29		x				x				x			4.0	0
	Angela	30			x				x				x		6.5	0
	Erin	34		x				x				x			7.0	0
	Rebecca	28			x				x				x		16.0	12
	Whitney	30		x				x				x			0.0	0
	Alicia	34		x				x				x			0.0	0
	Kathryn	34			x				x				x		0.0	0
Medium education	Courtney	31	x				x				x				0.3	0
	Kristen	26		x				x				x			0.3	0
	Allison	36		x				x				x			0.3	0
	Crystal	29		x				x				x			0.5	0
	Lauren	28		x				x				x			0.5	0
	Brittany	31		x				x				x			1.0	3
	Stephanie	38		x				x				x			3.0	0
	Emily	28	x				x				x				4.0	2
	Kelly	30		x				x				x			4.0	0
	Erica	27			x				x				x		5.0	0
	Lindsey	29	x				x				x				10.0	6
	Holly	31			x				x				x		0.0	0
	Jenna	28			x				x				x		0.0	0
	Kara	32	x				x				x				0.0	0
	Tracy	27		x				x				x			0.0	0
	Caitlin	38													0.0	0
Low Education	Amber	34		x				x				x			0.5	0
	Kimberly	32	x				x				x				1.0	2
	Stacy	29		x				x				x			3.0	2
	Monica	35	x				x				x				4.5	6
	Lisa	30		x				x				x			10.0	4
	Jasmine	20		x				x				x			0.0	0
	Julie	21	x				x				x				0.0	0
	Samantha	20	x				x				x				0.3	0

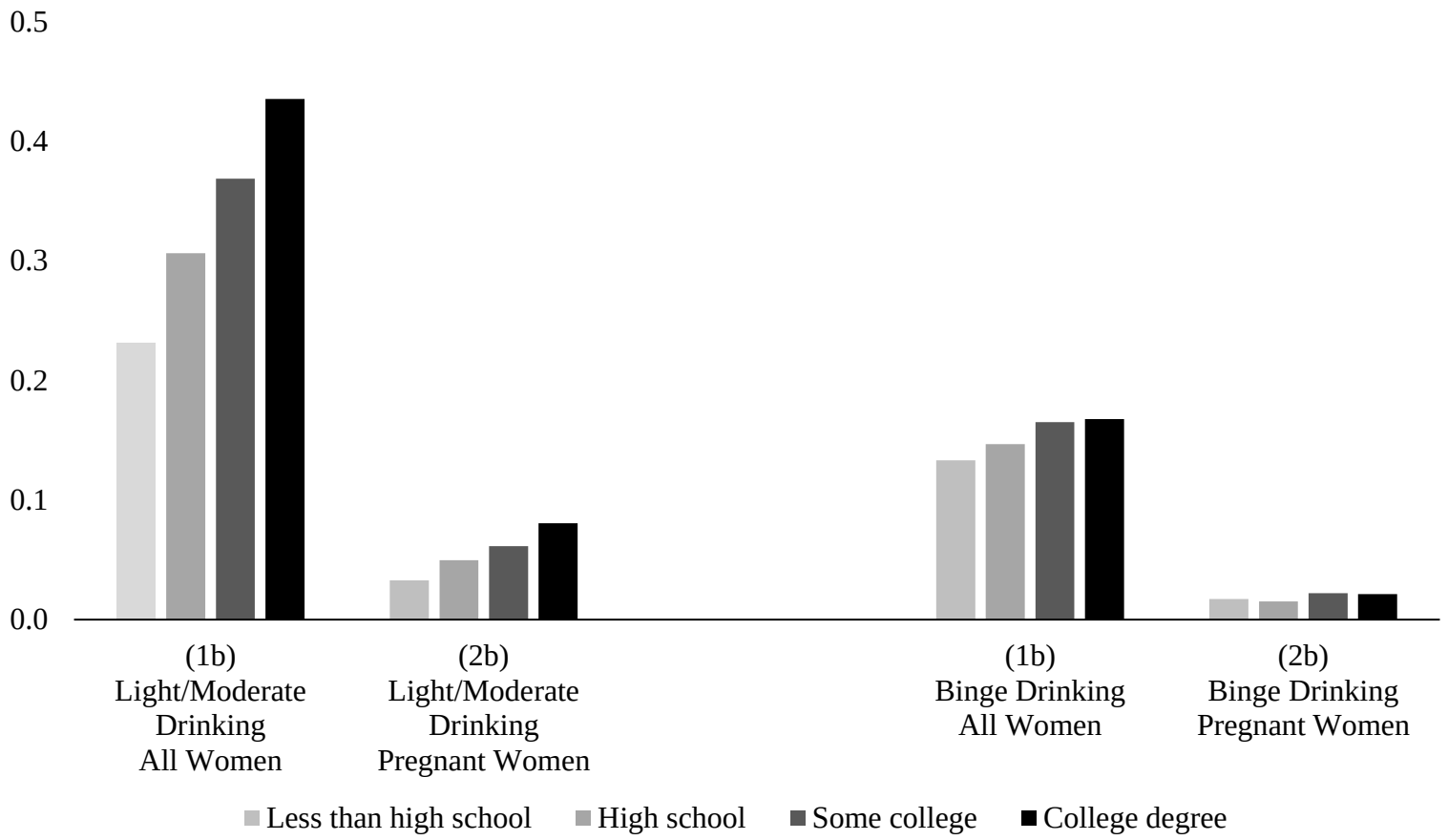

Figure 1. Predicted probabilities of alcohol consumption among all women and pregnant women, Behavioral Risk Factor Surveillance System 2011-2016. Numbers in parenthesis reflect corresponding model number depicted in Table 4. Analysis conducted using multiple imputation by chained equations and account for complex survey design. Educational attainment was significantly associated with each behavior except for binge drinking. See text for more detail.