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Heather Gatny, Jennifer Barber, and  
Yasamin Kusunoki

Young Women and Substance Use  
during Pregnancy: The Role of Social  
Support

**Young Women and Substance Use during Pregnancy:  
The Role of Social Support**

Heather H. Gatny  
University of Michigan

Jennifer S. Barber  
University of Michigan

Yasamin Kusunoki  
University of Michigan

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## **Abstract**

We investigate the relationship between social support and substance use during pregnancy. Data from the Relationship Dynamics and Social Life (RDSL) study allow us to examine weekly survey measures of social support and substance use collected throughout the pregnancies of a population-based sample of young women (n=187 women; n=2,145 observations). We use these data to determine whether social support from the father of the pregnancy, family, and friends are independently associated with alcohol, marijuana, and cigarette use during pregnancy. We also investigate the importance of multiple dimensions of social support and the size of social support networks. Our results suggest that pregnant women are less likely to use alcohol, marijuana, or cigarettes during periods when they have any social support from family and when their family support network is larger. A particularly strong and consistent predictor of substance use is having a family member to talk to about the pregnancy.

## INTRODUCTION

Although teen pregnancy rates in the U.S. have recently dropped, they still remain the highest among Western industrialized nations. According to the National Campaign to Prevent Teen and Unplanned Pregnancy, about 3 in 10 U.S. girls become pregnant before age 20 (The National Campaign 2010a). The rates are even higher among minorities, with 50% of African-American and 52% of Latina girls getting pregnant in their teens (The National Campaign 2010b). The consequences of early pregnancy are serious and wide-reaching—including abortion, curtailed educational attainment, later-life health problems, and poor birth outcomes (Chen et al. 2007; Geronimus and Korenman 1992; Hardy et al. 1998; Kost et al. 2010; Ventura et al. 2008).

Young pregnant women are significantly more likely than older pregnant women to smoke cigarettes, use illicit drugs, and drink alcohol during pregnancy (Abma and Mott 1991; Ebrahim and Gfroerer 2003; Flanagan 1999; Kokotailo et al. 1992). The risks associated with substance use during pregnancy are well-known. Women who smoke cigarettes during pregnancy are more likely to experience ectopic pregnancy, placental abruption, placenta previa, and particularly, preterm birth, which alone causes more infant deaths than any other known cause (Ananth et al. 1996, 1999; Callaghan et al. 2006; Castles et al. 1999; Cnattingius 2004; Coste et al. 1991; Tenore 2000). Children born to mothers who smoked during pregnancy are more likely to have a low birth weight, a condition associated with short- and long-term health consequences (Behrman et al. 2006; Cnattingius 2004; Horta et al. 1997; Saigal et al. 2003; Scherjon et al. 2000; Ventura et al. 2003). Marijuana and alcohol use during pregnancy are associated with reduced gestational age, low birth weight, preterm birth, infant mortality, poor cognitive development, and behavioral problems (Aliyu et al. 2010; Cornelius et al. 1995; Day et al. 1994; Hatch and Bracken 1986; Jaddoe et al. 2007; Kelly et al. 2009; Mick et al. 2002; Mills et al. 1984; O'Leary et al. 2009; Strandberg-Larsen et al. 2009).

The presence or absence of social support may be a particularly important determinant of which young women drink, smoke, or use drugs during pregnancy. Studies investigating the effect of social support on substance use during pregnancy have produced inconsistent results, finding differential effects by race (Stephens 1987), by specific substances (Harrison and

Sidebottom 2009; Giblin et al. 1990; Albrecht and Rankin 1989), or by combinations of specific substances and sources of social support (Moss and Hensleigh 1988; Horrigan et al. 2000). In addition, several studies have found either no relationship (Aaronson 1989; Harley and Eskenazi 2006; Meghea et al. 2010) or a *positive* association between social support and substance use (Norbeck and Anderson 1989; Heller et al. 2003).

Given these contradictions, it is difficult to draw conclusions from past research about the relationship between social support and substance use during pregnancy. However, a closer look suggests that some discrepancies across study findings may be explained by the kinds of methods used in these studies – chiefly measuring social support and substance use retrospectively, usually only once, either during the pregnancy or after delivery.

Retrospective measurement introduces important reporting error that varies across study designs. For example, some evidence indicates that women are more likely to use substances early, before the pregnancy becomes visible (Edwards and Sims-Jones 1998; Massey et al. 2010). Respondents interviewed at the time of delivery, then, may have less recall of substance use than will respondents interviewed earlier in their pregnancy. Social desirability bias in reporting substance use may also increase as the pregnancy progresses, leading respondents in a later stage of pregnancy to be more likely than those in an early stage to underreport it. The retrospective design may be problematic when it comes to reporting social support, as well.

In addition, retrospective reporting – especially late-stage or post-delivery reporting – tends to remove from the analytic sample women who do not complete their pregnancy because of miscarriage or abortion. Also, many past studies of substance use and social support during pregnancy have relied on analytic samples of women who present at clinics for prenatal care, which additionally excludes women who seek late or no care. Compounding this method's limitations, the exclusion may be strongest for teens, fewer of whom seek any prenatal care (Child Trends 2012), and for women with little social support in their lives (Higgins et al. 2007; Schaffer and Lia-Hoagberg 1997). These limitations may yield artificially low estimates of the relationship between social support and substance use by leaving out women with less social support and more substance use. Finally, the research focused exclusively on pregnant women presenting for substance use interventions may eliminate low social support women from samples of women with high levels of substance use, leading to an underestimate of the

relationship between social support and substance use. In short, it is difficult to find data on a representative sample of pregnancies without drawing from a population-based sample of women before they become pregnant. And without representative samples, it is impossible to generalize study results to the greater population of pregnant women.

Our analyses are made possible by newly available data from the Relationship Dynamics and Social Life (RDSL) study. The RDSL collected detailed, weekly, journal-based measures of social support and substance use throughout the pregnancies of a population-based sample of young women aged 18-19 at baseline. This journal-based design greatly reduces retrospective reporting error compared to studies that have much longer lags in time between experience and recall of events. In addition, the RDSL's population-based sample allows us to investigate the relationship between social support, substance use, and pregnancy among all young women who experience pregnancies, rather than only women who complete their pregnancies or who present for prenatal care or substance use counseling. The RDSL study's focus on young women is also ideal for investigating substance use during pregnancy since women who become pregnant at a young age are at increased risk of substance use (Abma and Mott 1991; Ebrahim and Gfroerer 2003; Flanagan 1999; Kokotailo et al. 1992).

We make two distinct contributions to the study of social support and substance use. First, we examine social support and substance use each week among 187 young women (out of 1,003) who experienced a pregnancy during the RDSL study period of 2.5 years. This yields a representative sample of 2,145 weeks of pregnancy during which measures of social support and substance use are subject to very little recall error.<sup>1</sup> Second, we examine three measures of common substance use (alcohol, cigarettes, and marijuana) and three areas of social support (emotional, instrumental, and financial) from multiple sources (romantic partners, friends, and family). We also examine the link between the size of support networks and substance use. Although every study has weaknesses, and we describe these for this study in the discussion section, our analysis circumvents many of the limitations of past studies.

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<sup>1</sup> Of course, even if they can easily remember substance use during the past week, they may choose not to report it. However, the RDSL collected this information mainly via the internet (95% of weeks), and also by phone, which minimizes social desirability bias relative to face-to-face interviews (Holbrook et al. 2003; Presser and Stinson 1998; Richman et al. 1999).

## POTENTIAL LINKS BETWEEN SOCIAL SUPPORT AND SUBSTANCE USE

Despite the inconsistent results found in the literature, common sense suggests that social support would play some role in a pregnant woman's substance use behavior. Young pregnant women, in particular, may be vulnerable to a number of pressures related to substance use that supportive others could help ameliorate.

We assume that pregnant women have a basic understanding that substance use may compromise the health of their babies, that they want to give birth to healthy babies, and that they will thus want to abstain from substance use during pregnancy. But we also know that individuals do not always choose, nor are they always able to act in ways that are consistent with their desires or intentions (Ajzen 1988; Bagozzi and Warshaw 1990; Grube and Morgan 1990; Liska 1984; Wright 1998). The confrontation between intentions and the physical, social, or psychological constraints that prevent individuals from realizing their intentions is a long-standing topic of theoretical inquiry (Alexander 1989, 1990; Alexander et al. 1987; Coleman 1994; Giddens 1984). Recent advances in the study of relationships among attitudes, intentions, and behavior explicitly recognize these constraints (Ajzen 1988, 1991; Ajzen and Madden 1986; Gibbons et al. 1995, 1998).

Pregnancy can be a particularly stressful time for many women. Not only does pregnancy place both emotional and physical demands on women, but it also marks the beginning of a major transition in life. Many stressors accompany this transition – from concerns over health matters, to how the new child will affect relationships with partners and other children, to increased financial pressures, to greater demands on time. It is well-established that stress can lead to poor health behaviors used to cope with stress, such as substance use (Aldridge-Gerry et al. 2011; Sinha 2001; Stewart et al. 1997). Thus stress may contribute to a woman's inability to follow through with her intentions to abstain from drinking, using drugs, or smoking cigarettes during pregnancy.

Alternatively, substance use patterns may be set *before* pregnancy occurs, as for women who are addicted to alcohol or the nicotine in cigarettes. In this case, the stress of pregnancy may not be responsible for the adoption of unhealthy behaviors, but would still be responsible for a mismatch between desires and behavior. In other words, even though pregnant women *want* to abstain from alcohol, drugs, and cigarettes during pregnancy, the pre-existing patterns may be especially difficult to change in the face of stress.

It is reasonable to posit that stress during pregnancy would vary according to both context and coping resources available, including the level of social support received from others. The “stress-buffering” hypothesis argues that social support positively affects health by mitigating stress. Many studies have found buffering effects of social support on stress when perceptions of social support were assessed (Cohen and Wills 1985; Cohen 1992; Hobfoll and Vaux 1993; House, Landis and Umberson 1988; Sarason, Sarason and Gurung 1997; Stroebe and Stroebe 1996; Wethington and Kessler 1986; Wills 1990). According to Cohen and Pressman (2004), social support may work to reduce stress “by providing a solution to the problem, by reducing the perceived importance of the problem, or by providing a distraction from the problem.” Social support may also protect against stress by promoting positive health behaviors (Albrecht and Rankin 1989; Emmons et al. 2007; Umberson 1987).

In addition, the “main effects” hypothesis argues that social support positively affects health regardless of the presence of stress. Many studies have also found a direct, positive effect of social support on health regardless of the presence of stress (Cohen and Wills 1985). In this case, simply the greater the number of people in one’s social network or the greater the number of social relationships one has directly promotes health. The number of social relationships one has may be important in promoting healthy behaviors during pregnancy as well.

## **HYPOTHESES**

Our hypotheses about substance use during pregnancy draw from both the “stress-buffering” and “main effects” literatures. The purpose of this analysis, however, is not to determine whether social support is a buffering or a direct causal factor predicting substance use during pregnancy, but rather to determine whether social support is a factor at all, given the mixed results of prior studies. Thus, we hypothesize that:

Pregnant women’s likelihood of drinking alcohol, smoking marijuana, or smoking cigarettes will be reduced (1) during periods when they have social support and (2) during periods when their social support network is larger.

## **DATA AND METHODS**

The Relationship Dynamics and Social Life (RDSL) study uses a population-based sample of 1,003 young women, ages 18-19, residing in a county in the Midwestern United States. A 60-minute face-to-face baseline survey interview was conducted between March 2008 and July 2009 to assess important aspects of family background; demographic information; key attitudes, values, and beliefs; current and past friendships and romantic relationships; education;

and career trajectories. The baseline interview yielded a response rate of 83.6% (RR1; AAPOR 2011), and a cooperation rate of 93% among located respondents. At the conclusion of this baseline interview, all respondents were invited to participate in a weekly journal-based study—a mixed-mode (Internet and phone) survey for 2.5 years. Each week respondents completed the journal either by logging into the study’s secure website, or by calling a toll-free number with a live interviewer. Over 99% of respondents who completed a baseline interview enrolled in the weekly journal portion of the study (N=992). Journal response rates were high. At the conclusion of the study, 84% of baseline survey respondents had participated in the journal study for at least 6 months, 79% for at least 12 months, and 75% for at least 18 months. In total, respondents completed 58,594 weekly journals.

## Measures

The RDSL data include separate measures of perceived social support from the father of the pregnancy, from family members, and from friends. This level of detail is important because other studies have found unique relationships between substance use and support received from specific individuals (e.g., Heller and colleagues 2003; Moss and Hensleigh 1988; Norbeck and Anderson 1989). The RDSL data also provide a wide range of controls including sociodemographic characteristics, prior pregnancy-related experiences, prospective pregnancy desire, and a host of other detailed measures. This allows us to assess the extent to which relationships between social support and substance use during pregnancy are independent of these background factors, which may influence both social support and substance use. Descriptive statistics for all measures are provided in Table 1.

***Substance use.*** In the weekly journal, respondents were asked, “In the past [days since last journal], did you drink alcohol?” In all, 14% of respondents reported some alcohol consumption while pregnant, and on average they reported drinking in 30% of the weeks of their pregnancies. Thus, 2% of all of the pregnancy weeks recorded for the entire sample are coded “1” for alcohol use.

Each week respondents were also asked similar questions about smoking marijuana and cigarettes. They were asked, “In the past [days since last journal], did you use marijuana?” and “In the past [days since last journal], did you smoke cigarettes?” Overall, 14% of respondents reported some use of marijuana while pregnant, and on average they reported use in 54% of weeks, resulting in 5% of weeks coded “1” for marijuana use. For cigarettes, 30% of respondents reported some use while pregnant, and on average reported smoking in 73% of weeks, resulting in 26% of weeks coded “1” for cigarette use.

***Social support from father of the pregnancy.*** Each week, in the journal, respondents were asked three questions about types of social support received from the father of their pregnancy:

- “In the past [days since last journal], did you and [father name] talk about your pregnancy?”
- “...did [father name] give you money or buy things for you?”
- “...did [father name] help you in other ways, such as providing transportation to a pre-natal clinic or helping with errands?”

Weeks are coded as “1” for a positive response on each type of social support from the pregnancy father, resulting in the following for the entire sample: respondents reported talking about the pregnancy in 84% of weeks; they reported receiving money or other things in 66% of weeks; and they reported receiving some other type of help in 62% of weeks. In addition, we created an overall indicator of whether the respondent received *any* of the three types of social support from the pregnancy father in each week, which yielded a result of 85% of weeks for the entire sample.

***Social support from family and friends.*** Each week, respondents were also asked the following three questions about social support received from family members and friends:

- “In the past [days since last journal], who of the following have you talked about your pregnancy?”
- “...who of the following gave you money or bought things for you?”
- “...who of the following helped you in other ways, such as providing transportation to a pre-natal clinic or helping with errands?”

Response options include mother, father, step-mother, step-father, brother, sister, grandparent, aunt, uncle, cousin, friend, other, and no one. On each question, answers were coded “1” for family member support if respondents selected from any of the first 10 response options. For the entire sample, respondents talked about their pregnancy with a family member in 79% of weeks; they received money or other things from a family member in 54% of weeks; and they received some other type of help from a family member in 39% of weeks. In addition, we created an overall indicator of whether respondents received *any* of the three types of social support from any family member, which yielded a result of 83% of weeks. Similarly, we coded as “1” all positive responses on friend support for each of the three questions. We found that respondents talked to at least one friend about their pregnancy in 59% of weeks; got money or other things from a friend in 14% of weeks; and received some other kind of help from a friend in 10% of weeks. Overall, respondents received any type of social support from a friend in 61% of weeks.

***Different kinds of family members who provided social support.*** We use the number of different family member response options selected by the respondent in each journal as an indicator of the number of family members in her social support network for that week. For example, if a respondent reported talking about her pregnancy with her mother, her sister, and her brother, then she is coded “3.” Although this may not capture all family members who provided support – for example, multiple sisters – the major categories of family members are represented, making the measure strongly correlated with the size of the respondent’s familial social support network. The mean number of types of family members with whom respondents discussed their pregnancy was 2.98, the mean number that gave money was 1.10, and the mean number that provided other types of help was .61. Overall, the mean number of types of family members that provided any type of social support was 4.69.

***Controls.*** *Desire to get pregnant* was measured on a range from 1 (no desire to get pregnant) to 6 (really want to get pregnant) in the week before the pregnancy was reported. The sample mean was 2.46. Race is included as a dichotomous indicator for *African American* (40%) versus non-African American. Latinas are included in both categories, but are not prevalent enough in this population to comprise a separate group. *Enrolled in school* (47%) is a dichotomous indicator for whether the respondent was enrolled in school that week. *Graduated high school* (94%) indicates whether the respondent reported graduating from high school. A respondent is coded as *received public assistance* (40%) if she reported receiving at least one of the following: 1) WIC, 2) FIP, 3) cash welfare, or 4) food stamps. *Religious importance* (2.72) was measured in the baseline interview with the question, “How important if at all is your religious faith to you?” and ranges from not important (1) to more important than anything else (4). *Relationship status* indicates whether the respondent was married (18%), engaged (19%), or neither (63%) during the week. *Living with partner* (37%) is based on two questions, “Who do you currently live with?” and “Do you have a place you live that is separate from where [Partner Name] lives?” A dichotomous measure indicates whether the respondent *spent a lot of time with the [pregnancy] father* (72%) during the week, and is based on the question, “In the past [days since last journal], did you and [father name] spend a lot of time together?” A dichotomous measure based on a question from the baseline interview indicates whether the respondent’s *biological mother was less than 20 years old at her first birth* (45%). *Family structure* is based

on two questions from the baseline interview, “While you were growing up, which of the following people did you live with?” and “Which of these people did you live with for the majority of the time when you were growing up?” We include three categories: Two parents (both biological parents or biological parent + step-parent) (40%); one biological parent only (49%), or other (11%). *Parents’ income* at the baseline survey is coded as \$14,999 or less (22%), \$15,000-44,999 (28%), \$45,000-74,999 (18%), \$75,000 or greater (10%), or don’t know/refused (22%). *Age at first sex* is coded dichotomously as 16 years or less (73%) or older. We also use dichotomous indicators for cumulative sexual experience – *lifetime number of sexual partners 5 or more* (52%), and for *ever had sex without birth control* (95%). The measure for *number of prior pregnancies* (1.81) ranges from 1 to 6. *Age* (20.56) is coded in months, and ranges from 18.35 to 22.46 years. *Number of weekly journals completed* (80.66), ranging from 5 to 129, is used as an indicator of time in the study, which controls for effects of repeated exposure to the questionnaire and continued participation in the study.

## Analytic Strategy

First, we conduct a series of logistic regression analyses to estimate the relationship between any perceived social support – from the pregnancy father, from family members, or from friends – and use of alcohol, marijuana, or cigarettes reported in a given week (Table 2). These analyses establish the important providers of social support in terms of likelihood of substance use during pregnancy. Our next series of logistic regression analyses determines which dimensions of perceived social support from these important providers are associated with substance use during pregnancy (Table 3). Our final set of logistic regression analyses estimates the effects of the number of different kinds of family members who provided social support on substance use reported in a given week (Table 4).

The analytic sample consists of 2,145 journals collected from 187 respondents while they were pregnant (214 pregnancies). All models include variables for social support and substance use measured in each week,<sup>2</sup> and control variables measured weekly or at baseline for sociodemographic characteristics, family background, pregnancy intentions, and sexual,

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<sup>2</sup> As a check for reciprocal causation we conducted analyses using cumulated versions of these same measures of social support collected across all weeks from the start of the pregnancy through the current week. The pattern of results was quite similar.

contraceptive, and pregnancy experiences. (See Appendix for base models using the controls to predict substance use.) Models were clustered by the individual respondents to account for the multiple journals completed per respondent.

## RESULTS

Table 2 shows the relationship between any social support received from the pregnancy father, family members, or friends and respondents' likelihood of drinking alcohol, smoking marijuana, or smoking cigarettes during pregnancy in a given week. Overall, this table suggests that *only social support received from family members is related to substance use during pregnancy*. That is, weeks in which respondents reported any type of support from a family member were *less likely* to include drinking alcohol, smoking marijuana, or smoking cigarettes (columns 2, 6, and 10). The relationship between family social support is net of social support provided by the pregnancy father or friends, as well (columns 4, 8, and 12).

Table 3 estimates the relationship between the three dimensions of social support (talk, money, other) received from family members and the likelihood of substance use during pregnancy. Note that we investigate these dimensions of social support only for family members because social support from pregnancy fathers and friends do *not* predict substance use. In separate analyses (not shown in tables), we confirmed that these specific dimensions of social support from fathers or friends are not significantly related to the overall likelihood of substance use. However, the findings in Table 3 suggest that different dimensions of social support received from family members have important effects for different substances. Respondents were less likely to drink alcohol during weeks in which they had a family member to talk to (column 1), help with money (column 2), and help with other things (column 3). The relationship between "help with money" and alcohol use, however, is not statistically significant, net of other types of social support shown in the combined model (column 4), suggesting that the relationship between financial help and alcohol use is largely because financial help is associated with talking to and receiving other kinds of help from family members. The models predicting marijuana use tell an identical story. However, we found that respondents were less likely to smoke cigarettes *only* in weeks when they talked to a family member (column 9). This relationship is net of other types of social support from family members, which are not significantly related to cigarette smoking (column 12).

Table 4 shows the relationship between the number of different kinds of family members who provided any type of social support (talk, money, other) and the likelihood of substance use during pregnancy. (Again, we do not perform these detailed investigations for pregnancy fathers or friends because we found no connection between their support and substance use in earlier analyses.) As in Table 3, these models also suggest that different dimensions of social support are important, depending on the substance. And once again, models of alcohol and marijuana use look very similar, but cigarette smoking is different. Weeks in which respondents had larger family social support networks – in terms of talking, money, and other help – were less likely to involve alcohol use (columns 1-3). These measures remain significant in the combined model (column 4), suggesting that the size of the social network providing each dimension of social support has an independent relationship with alcohol use.<sup>3</sup> Similarly, larger social networks on all three support dimensions are associated with less marijuana use (columns 5-7). However, in the combined model (column 8), the size of family network for talking support is *not* statistically significant, suggesting that this relationship with marijuana use is largely due to links between the size of the family network for talking support and the size of family networks that provide money and other types of help. In the models predicting cigarette smoking, only the size of family networks that provide talking is significant (columns 9-11). However, this measure is correlated with the size of other family support networks, and is not statistically significant in the combined model (column 12).

## DISCUSSION

Overall, we find that social support from family members predicts substance use during pregnancy among our sample of young women. As hypothesized, pregnant women are less likely to drink alcohol or smoke marijuana or cigarettes during periods when they report social support, and when they report support from larger family networks. While almost all previous studies have focused broadly and retrospectively on perceptions of social support, we analyze measures of current support from different types of people on several dimensions of support, as well from different sizes of social support networks.

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<sup>3</sup> Note, however, that the coefficient for "helped with money" changes direction in column 4. This suggests that large social support networks providing money are actually associated with *more* alcohol use, when the size of talking and other help networks are held constant.

We find that *who* is providing the social support is an important predictor of substance use during pregnancy. Similar to other studies (Harley and Eskenazi 2006; Horrigan et al. 2000), we found that social support from the pregnancy father does *not* affect the likelihood of substance use during pregnancy. We also found that social support from friends does *not* have an effect. However, social support from family members is associated with less substance use during pregnancy. We suspect that the quality of social support received from family may be higher than that received from fathers or friends. Furthermore, we find that the *type* of social support received from family is also important. A particularly strong and consistent predictor of substance use is having someone to talk to about the pregnancy. Respondents reported less alcohol, marijuana, and cigarette use during weeks when they talked to family members. In comparison, having family members provide help with other things had only a modest negative effect on the respondents' use of alcohol and marijuana, and having family members provide money or gifts had no negative effect on any substance use during pregnancy, and may even have increased alcohol use.

Finally, we find that the size of the family social support network has an impact on substance use during pregnancy. This may be true because the receipt of social support from a wider variety of family members – for instance, mother, sister, and grandparent – may indicate *a greater overall quantity of social support* for the respondent. Or it may be that a wider range of family members yields more kinds of complementary support – for example, advice from sister, a ride to the clinic from parent, repair work from uncle – that increase the cumulative benefit to the respondent. Unfortunately, our data does not include direct measures of the specific kind, value, or amount of social support received from family members, nor does it allow for reporting exact numbers of family members involved. But it does provide information on categories of support from a range of family members that allows us to identify effects by type and size of family social support network.

A major strength of this analysis is that it uses detailed, weekly measures of social support and substance use, collected throughout the pregnancies of a population-based sample of young women. As described above, our results differ from some previous research that has found an inconsistent or no relationship between social support and substance use during pregnancy. But we posit that our representative sample of pregnant women, from whom was collected both in-depth baseline information and short-lag-time weekly measures over the duration of their

pregnancies, may provide stronger evidence than has been possible with other data. To our knowledge, no other dataset contains such comprehensive measurement in terms of the type and source of social support across the entire pregnancy of a population-based sample of women.

Like all studies, this study has limitations. Although our sample is population-based, it is not nationally representative. However, the study site falls around the national median on many key measures in the RDSL study, such as cohabitation, marriage, age at first birth, completed family size, nonmarital childbearing, and teenage childbearing (see Lesthaeghe & Neidert, 2006). This is, of course, not to suggest that the study site is representative of the nation, rather that the site is not an outlier. Another limitation in this study, and indeed all similar studies, is the possibility that substance use is underreported because it is not socially acceptable, especially during pregnancy. Notwithstanding, we believe the RDSL's data-gathering methods – telephone and internet – helped minimize social desirability error by enhancing respondent privacy and sense of anonymity. Finally, because the weekly journal interviews are so short, the number of questions about social support and substance use was very limited. It is possible that additional measures could produce different results.

Our findings suggest that interventions to increase high-quality social support throughout women's pregnancies may reduce substance use. In addition, interventions that provide many different kinds of complementary support may be particularly effective. Social support has been an important component of many effective interventions, for example smoking cessation (Carlson et al. 2002; Mermelstein et al. 1986) and adjustment to cancer (Bloom 1986; Dunkel-Schetter 1984). However, our results do not necessarily provide strong support for policies designed to encourage social support through *marriage* among young couples experiencing a pregnancy. At least in terms of substance use, it is unclear whether encouraging such unions would be in the best interest of the unborn child. These results should motivate further research on how specific characteristics of pregnancy fathers influence pregnant young women's behaviors during pregnancy, their birth outcomes, and the parenting environment for their young children.

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Table 1. Descriptive Statistics of Measures Used in the Analyses (N=2145 observations)

	Mean	Std. Dev.	Min	Max
<b>Substance Use</b>				
Alcohol	.02		0	1
Marijuana	.05		0	1
Cigarettes	.26		0	1
<b>Social Support</b>				
From Father of Pregnancy				
Talked about pregnancy	.84		0	1
Gave money or other things	.66		0	1
Helped in other ways	.62		0	1
Any social support	.85		0	1
From Family Members				
Talked about pregnancy	.79		0	1
Gave money or other things	.54		0	1
Helped in other ways	.39		0	1
Any social support	.83		0	1
From Friends				
Talked about pregnancy	.59		0	1
Gave money or other things	.14		0	1
Helped in other ways	.10		0	1
Any social support	.61		0	1
# of different kinds of family members				
Talked about pregnancy	2.98	2.49	0	10
Gave money or other things	1.10	1.52	0	10
Helped in other ways	.61	1.00	0	10
Any social support	4.69	3.94	0	30
<b>Controls (N=187 individuals)</b>				
Desire to get pregnant†	2.46	1.93	1	6
African American	.40		0	1
Enrolled in school†	.47		0	1
Graduated high school†	.94		0	1
Received public assistance	.40		0	1
Religious importance	2.72	.89	1	4
Relationship status				
Married (ref=not married or engaged)†	.18		0	1
Engaged (ref=not married or engaged)†	.19		0	1
Living with partner†	.37		0	1
Spent a lot of time with pregnancy father†	.72		0	1
Biological mother <20 years old at 1st birth	.45		0	1
Family structure				
One biological parent only (ref=2 parents)	.49		0	1
Other (ref=2 parents)	.11		0	1
Parents' Income				
\$15,000-44,999 (ref<=14,999)	.28		0	1
\$45,000-74,999 (ref<=14,999)	.18		0	1
\$75,000 or greater (ref<=14,999)	.10		0	1
Don't know/refused (ref<=14,999)	.22		0	1
Age at first sex 16 years or less	.73		0	1
Lifetime number of sexual partners 5 or more†	.52		0	1
Ever had sex without birth control†	.95		0	1
Number of prior pregnancies†	1.81	1.05	1	6
Age†	20.56	0.8	18.35	22.46
Number of weekly journals completed†	80.66	31.07	5	129

† Varies by journal (N=2145 observations)

Table 2. Logistic Regression Estimates of Effects of Any Social Support from Father, Family, and Friends on Drinking Alcohol, Smoking Marijuana and Smoking Cigarettes during Pregnancy (N=187 individuals, 2,145 observations)

	Alcohol				Marijuana				Cigarettes			
	1	2	3	4	5	6	7	8	9	10	11	12
Had any support this week from...												
...father of pregnancy	.54 (.80)			.54 (.77)	.19 (.46)			.25 (.46)	-.49 (.45)			-.48 (.46)
...family		-1.36 ** (.56)		-1.39 ** (.59)		-1.03 *** (.31)		-.92 ** (.34)		-.44 * (.25)		-.38 + (.29)
...friends			-.36 (.56)	.06 (.56)			-.60 * (.35)	-.27 (.39)			-.26 (.29)	-.17 (.33)
X <sup>2</sup>	61.24	68.73	59.07	66.16	161.77	162.37	160.92	179.00	50.59	56.68	55.31	62.42
Log-likelihood	-178.50	-173.00	-178.38	-172.56	-292.45	-285.03	-289.70	-284.36	-913.82	-912.11	-913.92	-908.96

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models include the full set of controls-see Appendix for base models.

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001 (one-tailed tests)

Table 3. Logistic Regression Estimates of Effects of Different Dimensions of Social Support from Family on Drinking Alcohol, Smoking Marijuana and Smoking Cigarettes during Pregnancy (N=187 individuals, 2,145 observations)

	Alcohol				Marijuana				Cigarettes			
	1	2	3	4	5	6	7	8	9	10	11	12
Had family this week to...												
...talk to	-1.75 *** (.54)			-1.56 ** (.62)	-1.09 *** (.29)			-.83 * (.41)	-.44 + (.29)			-.44 + (.32)
...help with money		-.76 + (.47)		.30 (.56)		-.72 ** (.26)		-.11 (.38)		-.11 (.24)		.09 (.26)
...help with other things			-1.46 ** (.56)	-1.09 * (.52)			-.91 ** (.37)	-.60 + (.43)			-.19 (.25)	-.11 (.24)
X <sup>2</sup>	71.71	65.24	67.26	80.94	218.91	152.49	159.47	216.98	55.74	49.31	49.31	58.41
Log-likelihood	-167.64	-176.72	-172.38	-164.96	-283.43	-288.34	-286.56	-281.00	-911.64	-915.81	-915.04	-911.23

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models include the full set of controls-see Appendix for base models.

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001 (one-tailed tests)

Table 4. Logistic Regression Estimates of Effects of Number of Different Kinds of Family Members Lend Social Support on Drinking Alcohol, Smoking Marijuana and Smoking Cigarettes during Pregnancy (N=187 individuals, 2,145 observations)

	Alcohol				Marijuana				Cigarettes			
	1	2	3	4	5	6	7	8	9	10	11	12
# of different kinds of family members this week...												
...talked to	-.61 *** (.15)			-.58 *** (.14)	-.20 ** (.08)			-.12 (.10)	-.09 * (.05)			-.08 (.06)
...helped with money		-.40 * (.23)		.30 * (.17)		-.43 *** (.13)		-.24 + (.17)		-.10 (.08)		-.01 (.08)
...helped with other things			-1.14 ** (.40)	-.98 ** (.41)			-.51 * (.22)	-.32 + (.25)			-.15 (.14)	-.10 (.14)
X <sup>2</sup>	77.34	73.68	63.72	80.71	179.87	167.93	171.76	205.83	60.34	49.41	49.05	60.03
Log-likelihood	-159.26	-176.09	-170.25	-154.45	-286.40	-286.25	-287.81	-282.41	-910.06	-913.50	-913.25	-908.66

Notes: Coefficients are effects on log-odds. Standard errors in parentheses. All models include the full set of controls-see Appendix for base models. The effect of "helped with money" changes direction in column 4 which suggests that large social support networks providing money are actually associated with more alcohol use, when the size of talking and other help networks are held constant.

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001 (one-tailed tests)

Appendix Logistic Regression Estimates of Effects of the Controls on Drinking Alcohol, Smoking Marijuana and Smoking Cigarettes during Pregnancy (N=187 individuals, 2,145 observations)

	Alcohol 1	Marijuana 2	Cigarettes 3
Desire to get pregnant	-.24 + (.16)	.16 (.14)	.24 * (.13)
African American	-.90 + (.62)	-1.25 + (.79)	-1.06 + (.72)
Enrolled in school	.67 (.72)	.14 (.57)	-.14 (.42)
Graduated high school	.35 (1.01)	-.20 (.78)	-.12 (.63)
Received public assistance	-.62 (.52)	-.04 (.48)	.26 (.46)
Religious importance	-.13 (.34)	-.45 * (.21)	-.16 (.26)
Relationship status			
Married (ref=not married or engaged)	-1.34 + (1.02)	-1.01 (.88)	-.08 (.66)
Engaged (ref=not married or engaged)	-.27 (.87)	-1.67 * (.83)	-.33 (.47)
Living with partner	-.77 (.67)	-1.35 ** (.51)	-.50 (.41)
Spent a lot of time with pregnancy father	.73 (.59)	-.46 (.48)	-.00 (.35)
Biological mother <20 years old at 1st birth	.53 (.44)	1.05 * (.56)	-.74 + (.49)
Family structure			
One biological parent only (ref=2 parents)	-.67 + (.51)	-1.37 * (.74)	-.30 (.52)
Other (ref=2 parents)	.51 (.77)	.32 (1.15)	.05 (.58)
Parents' Income			
\$15,000-44,999 (ref<=14,999)	.43 (.76)	.51 (.68)	.81 (.69)
\$45,000-74,999 (ref<=14,999)	-.25 (.80)	-.99 (.93)	-.90 (.86)
\$75,000 or greater (ref<=14,999)	.84 (.95)	-1.38 + (.99)	.06 (.93)
Don't know/refused (ref<=14,999)	.07 (.81)	-.15 (.95)	.47 (.87)
Age at first sex 16 years or less	1.29 (1.04)	.00 (.67)	.98 + (.67)
Lifetime number of sexual partners 5 or more	.41 (.48)	1.53 * (.89)	.39 (.42)
Ever had sex without birth control	1.86 (1.65)	-.07 (.88)	-1.81 * (.93)
Number of prior pregnancies	-.13 (.29)	.52 ** (.22)	.69 ** (.23)
Age	.02 (.35)	-.41 + (.28)	-.56 + (.36)
Number of weekly journals completed	-.01 (.01)	-.01 + (.01)	.01 (.01)
X <sup>2</sup>	61.03	148.27	49.35
Log-likelihood	-178.90	-292.58	-916.18

Notes: Coefficients are effects on log-odds. Standard errors in parentheses.

+ p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001 (one-tailed tests)



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PO Box 1248, Ann Arbor, MI 48106-1248 USA  
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