Expectations of Support: Health Investments and Promises of Financial Assistance for Children *

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Abstract

This paper analyzes the relationship between unmarried mothers' health investments in children and financial support from the child's father. In particular, I show how verbal promises of financial assistance for a child made at birth affect post-natal investments in health–including whether the child was on time for his last scheduled doctor's visit and breastfeeding–controlling for prenatal health access and father characteristics. Using a matching strategy, I compare mothers with similar characteristics but different child support expectations and outcomes on their investments in the child's health. While OLS results on the full sample exhibit no relationship between expected child support and investments, separation by race in OLS shows different effects for Black and White women. Propensity score matching shows a smaller effect for both late doctor's visits and breastfeeding results, but is only significant for breastfeeding, particularly for White mothers. Propensity score matching fails to find an effect on late doctor's visits, even when separated by race. The results indicate the importance of race and class in identifying an effect and suggests that the question of a promise of support may be interpreted differently in different cultural contexts.

Keywords: Match Quality, Health, Paternal Investments in Children

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1 Introduction

An evolving notion of parenthood in the United States has called attention not only to the diversity of types of families, but also variation within types, particularly as regards the quality of romantic relationships and notions of financial and emotional responsibility for raising children. This heterogeneity within unmarried parents is largely understudied. In addition, the set of parents that are unmarried is expanding (Pew 2010). The makeup of families is evolving and the traditional role of fathers as providers for life has been circumscribed by working mothers, single mothers and various legal or informal, financial and emotional arrangements to cover the costs of raising children (Pew 2010). As such, the relationship between investments in children and arrangements that include children, but not necessarily marriage, merits further investigation.

In terms of financial arrangements, theory tells us that decisions about household expenditure are made with an eye on current income and expectations of future income (Hall 1978). In addition, income from child support has been shown to improve outcomes for children more than income from other sources, so the promise or expectation of that income might be particularly powerful in affecting expenditures (Knox 1996). If the promise of support is powerful and credible, we would expect to see an adjustment in household expenditure and most critically, adjustments in investments in children.

Here, I specifically examine the relationship between investments in children's health and expectations of financial support using a subsample of the Fragile Families and Child Wellbeing data of parents who are unmarried at the birth of the child. For outcomes, I focus on two health investments deemed critical by the American Academy of Pediatrics. The first is on-time doctor's visits; I use the elapsed time since the last doctor's visit to create a dichotomous variable indicating whether the child was late to their last recommended

checkup for a sample of 12-18 month olds. Secondly, I examine the number of months a child was breastfed as reported by the mother. The key right-hand-side variable of interest is whether a promise of financial assistance was given to the mother by the father at or around the birth of the child.

I first use a basic OLS strategy, testing for associations of the promise of support with recent checkups or extended breastfeeding. In order to address the heterogeneity of the sample, I include key controls such as prenatal care, characteristics of the father, and other measures of child support. To compare to the OLS results, I also analyze the sample using propensity score matching to test whether the relationship is robust to comparisons within more like groups. In addition, I test whether these verbal agreements to financially support a child affect health investments differently than the actualization of these promises through child support, either formal or informal. In order to do this, I add controls for whether a financial support agreement is in effect for the follow-up wave, and whether those payments are being made on time. For all specifications, I separate by race to test for whether there are different effects for different groups.

This work is related to several strands of literature: one that seeks to explain parents' involvement in their children and one that links early childhood health care to eventual outcomes, but also is associated more generally to research around expectations of future income and how childrearing differs by race. There is a broad ethnographic and sociology literature that aims to differentiate among socioeconomic status and race according to attitudes about marriage, childbearing and investments in children (e.g. Edin & Kefalas 2005; Smock, Manning & Porter, 2005, Osborne & McLanahan 2007). In addition, these results confirm findings in the medical literature showing that Black parents are more likely to follow "alternative vaccination schedules", or take their children late to routine appointments,

if at all (Dempsey, et.al. 2011). The question of a promise of financial support also hints at questions of partnership and financial stability and how that affects children (e.g. Craigie 2008, Ryan, et.al. 2008; Smock, et.al. 2005). To my knowledge, this is the first paper that associates expectations of child support with investments in children. I also add to the literature by examining the use of attitudinal questions in surveys.

While OLS regressions on the whole sample show no effect on whether the child is late for his last scheduled doctor's visit there is an effect when the regression is run only for Black women. Black women who received the promise of support were less likely than those who didn't receive the promise to miss their last scheduled doctor's checkup by at least a month, but little to no effect for White women. Interestingly, we also see an effect on investments like breastfeeding that are perhaps seen as less cost-intensive. With a full set of controls, White women who received the promise breastfed their children on average 2.4 months longer than White women who did not. These differing effects indicate that there may be significant differences in the way the question of support is understood by mothers in different communities. In addition, it may be that the promise of support has entirely different meanings to different types of fathers (Edin & Kefalas, 2005; Osborne & McLanahan, 2007; Gibson-Davis, et.al 2005).

An alternative strategy involving propensity score matching fails to identify the effect as strongly, though differences by race and by type of investment persist. The magnitude of decreased probability of being late is much smaller, on the order of 5 percentage points, and significance is only achieved with the exclusion of important controls. For breastfeeding, the effect is persistent for White mothers, though of a smaller magnitude–about half of the OLS effect–and with certain matching methods, a similar effect appears for Black mothers where there was none with an OLS strategy.

The rest of this paper is organized as follows. In Sections 2, I discuss the data. Section 3 presents greater detail on the sample and key variables, descriptive statistics, and methods. In Section 4, I present OLS and propensity score matching results. Section 5 concludes.

2   Data

Comparisons within the set of unmarried women have been previously difficult due to small sample sizes. Until recently, surveys with a representative sampling design surveyed few never-married women. A recent increase in non-marital births in the United States combined with a heightened interest in outcomes associated with non-traditional families has led to increased presence in surveys. In particular, the Fragile Families and Child Well-being (FF) data set is well-suited to analysis of non-traditional families due to its significant oversample of non-marital births. Fragile Families is a longitudinal study with about 4000 initial respondents who gave birth in 1998, 1999 or 2000 and three follow-up waves, taking place around the focal child's first, third and fifth birthdays.[1] I use information provided by the mothers in the baseline and one-year surveys about relationship quality and investments in the focal child.

3   Methods

3.1   Sample

The relevant sample consists of mothers who are the primary caretakers of the focal child as of the first follow-up survey. Fathers as primary caretakers are not included and mothers must have knowledge about the identity of the father of the child and be able to answer questions about his personality and commitment to raising the child. I use several characteristics as

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[1]The 9-year follow-up survey is expected to be released in 2012.

reported in the baseline survey, including socio-economic characteristics, mother's estimation of father's character and commitment to raising children, and father's race and education.

As I am interested in the promise of support, I concentrate on mothers unmarried at the birth of their child who answered the question of whether a verbal promise of support was made by the father by the time of the first survey. Further, I restrict the sample to women who are primary caretakers for the focal child and mothers who were interviewed for the one-year followup when their child was aged 12 to 18 months.

I truncate the data in order to concentrate on an age when children are due for several crucial doctors visits to receive vaccinations and ensure child well-being. A small number of respondents were interviewed before the child's one-year birthday. I do not consider these respondents. Due to the fact that twelve months is the minimum recommended age for administration of certain vaccines, I exclude children whose mothers were interviewed before their first birthday. After the child turns 18 months old, the frequency of recommended well-child visits drops according to the AAP. On the upper end, I restrict the sample to children 18 months or younger in order to avoid cases of older children who have a longer scheduled lag between doctor's visits. Table 3.1 shows the distribution of all children in the Fragile Families Data aged 12 months and up at the one-year follow-up survey. Most children are in the 12 to 18 months range, so the analysis is relevant for a significant portion of respondents.

Another important aspect of the sample is that I split the sample by race, concentrating on the two largest racial groups represented in the data, Black women and White women. The differing marriage rates between races leaves likely very different samples of women unwed, the women who are considered here. Though many of their observable characteristics are the same, fewer Black women (12.9% of Black women in the whole sample are married

Table 1: Baby's Age in Months at time of Mother's 1-year Interview

	Freq.	Percent	Cum.
12	842	22.03	22.03
13	647	16.93	38.96
14	422	11.04	50.00
15	159	4.16	54.16
16	362	9.47	63.63
17	454	11.88	75.51
18	321	8.40	83.91
19	219	5.73	89.64
20	135	3.53	93.17
21	78	2.04	95.21
22	47	1.23	96.44
23	32	0.84	97.28
24	37	0.97	98.25
25	17	0.44	98.69
26	9	0.24	98.93
27	4	0.10	99.03
28	13	0.34	99.37
29	16	0.42	99.79
30	8	0.21	100.00
Total	3,822		100.00

than White women (49.2%). This is representative of statistics nationwide. In the 2000 Census, about 36.3% of White respondents lived in a household with a spouse, while only 26% of Black respondents did. There is also evidence that marriage and other forms of romantic commitment are viewed differently within different racial communities (Edin & Kefalas 2006). Thus I split the sample to examine whether financial commitments are associated with significant differences in investments in children by race. The data bear out this prediction, exhibiting different effects for various types of investments.

3.1.1 Breastfeeding Sample

The subsample of mothers who ever breastfed was much smaller than the sample of women for whose children there was complete health information. Less than half of the women in the sample as described above report having ever breastfed the child. The breastfeeding specifications were performed using the subsample who reported having every breastfed,

3.2 Key Variables

In terms of outcome variables, I choose to concentrate on breastfeeding and doctor's visits as these two interventions are high priorities of the American Academy of Pediatrics and have very different cost structures. I include a number of key controls to account for unobserved heterogeneity in the sample. I use age of child fixed effects instead of controlling for age linearly to account for differences by age.

3.2.1 Outcome–Late to doctor's visits

Doctor's visits are summarily important in a child's health and development. The AAP dictates vaccinations and regular checkups at 9, 12, 15 and 18 months of age. Between twelve months and fifteen months, a child is due for 10 vaccines.[2] The data do not provide a

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[2]http://aapredbook.aappublications.org/resources/IZSchedule0-6yrs.pdf

comprehensive timeline of doctor's visits, but rather ask the mother when was the last time the child saw a doctor for a regular checkup. So, while I cannot ask whether a child was late to a particular visit–say, the nine-month visit–I can ask whether the child has been to the doctor within the last three months. When children are not brought in to the doctor within the recommended window of time, pediatricians become concerned, and so I create a variable that indicates whether the child has been to the doctor in the last three months as a proxy for whether the child was late to his last regularly scheduled checkup.

Given the AAP guidelines, for children between 12 and 18 months of age, all other things equal, the last doctor's visit should have been within the last three months. I use the date of the last doctor's visit and the interview date to construct a variable representing the months elapsed since the last regular doctor's visit. If more than three months have elapsed between a child's last doctor's visit and the interview, a dummy variable called "late" takes a value of one and zero otherwise. As these are critical months to be getting vaccinations, it is worrisome to have more than three months elapse between visits. I assume that if a longer span of time has elapsed since the last doctor's visit, it signifies a lower preference for investment in the child or a lower ability to pay. I cannot distinguish between the explanations, but do examine whether there is a link between these decisions and an earlier promise of financial support.

Doctor's visits are costly in monetary terms, particularly in the absence of health insurance or assistance, but less costly in terms of time. Though a doctor's visit might require a mother to take off work or school, they require much less time than say, breastfeeding. For this reason, we might consider doctor's visits less of a time investment and more of a financial investment.

3.2.2 Outcome–Breastfeeding

Breastfeeding is associated with "health, nutritional, immunologic, developmental, psycho-logic, social, economic and environmental benefits" (AAP 2005). As of 2005, the American Academy of Pediatrics recommends exclusive breastfeeding for at least the first six months. As an outcome variable, I use the number of months that a mother reported breastfeeding the focal child.

I concentrate on breastfeeding here because it seems that breastfeeding would differ from doctor's visits in terms of the kinds of costs associated with it. The costs associated with breastfeeding are primarily time-oriented; a mother must find a time and place to feed her child or pump at regular intervals. But there are not significant financial costs associated with breastfeeding as there are with doctor's visits.

3.2.3 Key Controls

In order to account for the non-random selection of participants into the promise group, I rely on "selection on observables" (Heckman & Robb, 1985) by controlling for pre-treatment characteristics where available. I include measures of prenatal preferences for investing in children by accounting for prenatal health investments. These include when prenatal care was first received and whether the mother used drugs, alcohol or cigarettes while pregnant.

I also test whether conditioning on additional information has any effect. I include information about the father's characteristics at the birth of the child to proxy for the mother's belief that the father will follow through with his promise of support. I also check whether current child support agreements and on time payments have any effect.

3.2.4 Father characteristics

The rich data associated with Fragile Families gives a large number of father characteristics, as reported by the mother, with which we might associate credibility, reliability or other desirable traits in a caregiver. I include controls for father's socioeconomic characteristics where available, as reported by the mother, but also add variables that may proxy for the above traits that may be affect how much the mother believes in the promise. Father's education and race are very highly correlated with the mother's education and race, respectively.

The analysis also controls for whether the father was in jail at the time of birth of the child, whether the father was working around the time of the first interview and whether the mother believes the father has difficulty holding a job due to drugs. The inclusion of father characteristics is a unique contribution afforded by the data. While we might expect that a woman's propensity to consume is based on her expectations of future income, the credibility of that income source is also paramount. A promise of financial support from a partner or former partner who is seen as stable, loving and dependable should have different effects than a promise of support from a man seen as unstable and violent.

3.2.5 Other Child Support Variables

The question of whether a promise of support in the past is exerting a measurable effect might be tempered by the actualization of child support later on. For a reduced sample, I am able to determine whether any sort of agreement, legal or otherwise, is in effect by the one-year follow-up survey and whether the payment is relatively on time. I use a dichotomous variable to indicate whether the mother reports having a legal or informal support agreement with the father and condition on that variable in addition to the full set of controls described above.

The late payment variable is equal to one if the mother reports that half or more of the agreed upon child support generally arrives late or never. It is equal to zero if the agreed upon child support is payed on time always or most of the time. Including these two additional variables allows me to test whether the promise of support exerts an effect, conditioning on current income streams.

3.3   Descriptive Statistics

Table 3.1 shows the cumulative probability of the ages of children whose mothers were interviewed at birth and around the child's first birthday. Most children's mothers were interviewed within a few months of their birthday, but in some extreme cases, the mother was not interviewed until the child was 20 months or more. I restrict the sample to children aged 12-18 months. During this time period, as described above, a child should have seen the doctor within three months.

Figures 2.1 and 2.2 show histograms and corresponding kernel density function for the distribution of elapsed time since a doctor's appointment for women who received a promise of support (2) and those who did not (1). Though both distributions have a long right tail, and observations are clustered near the origin, it is clear that women who received the promise were much more likely to have taken their child to the doctor recently.

Figures 2.3 and 2.4 show distributions of months a child was breastfed by whether the mother received a promise of support. Women who received a promise of support were slightly more likely to have breastfed their children at all, and there is much more variation in the right tail of their distribution.

Table 3.3 shows descriptive statistics for mothers in the baseline survey, split by promise of support. The first column shows unmarried respondents who reported that the child's father had promised financial support. The second column shows responses by unmarried

Figure 1: Distribution of Time Elapsed Since Last Doctor's Visit for Children whose Mothers Report No Promise of Support
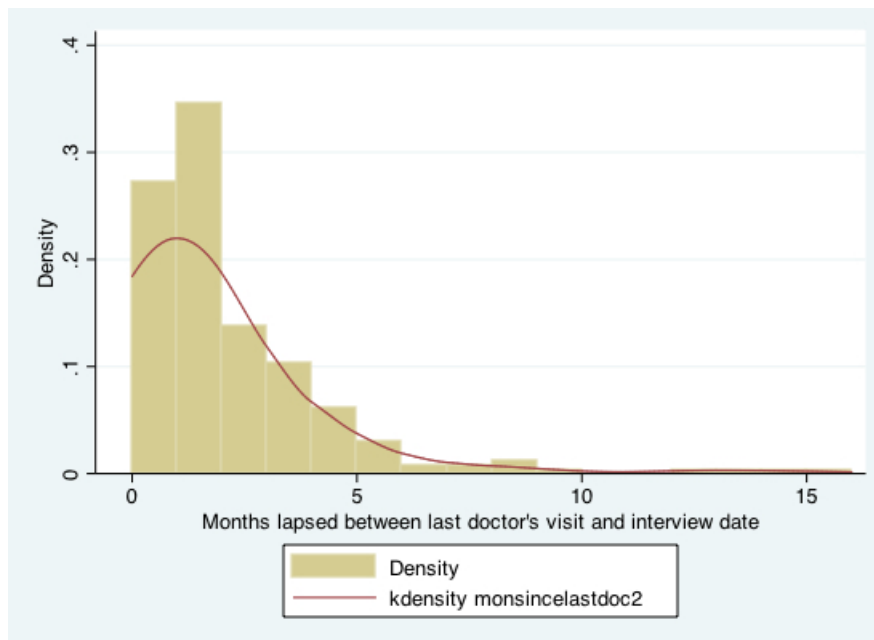
respondents who reported that the child's father had not promised financial support. While the average responses are similar on many measures, there are some key differences that merit further attention. Women receiving the promise are about a year younger and more likely to have been born in the US and have their own income. Almost 70% of the women receiving the promise were Black as opposed to 50% of the non-promise population. Differences in education do not show much of a discernible pattern.

Women reporting a promise of financial support tend to answer questions in such a way that suggest a better relationship with the father. They are less likely to report arguing over the pregnancy and other relationship issues. They are more likely to indicate that they want the father around and less likely to indicate that the father suggested an abortion (15% versus 29%). Women who received a promise are also more likely to predict high chances of eventual marriage with the father. It is interesting to note, however, that the timing

Table 2: Baseline Characteristics of Unmarried Mothers

	Promise	No Promise	
	Mean	Mean	T for difference
Mother's Age	22.8	23.3	0.72
% Male Child	56.5	52.9	-0.60
% Low Birth Weight?	11.2	15.7	1.05
Average Frequency of Disagreements-1 is 'Always, 3 is 'Never'			
Money	2.3	2.4	0.64
Time	2.19	2.19	-0.02
Sex	2.61	2.56	-0.59
Pregnancy	2.61	2.32	-2.99
Drugs	2.76	2.61	-1.86
Cheating	2.51	2.37	-1.411
% Mother wants Father around	94.9	70.5	-4.61
% Father wants to be around	98.3	71.9	-3.06
% Father Promised $	100	0	
% Father Suggested Abortion	14.5	29.4	2.86
% In Public Housing	17.5	21.4	0.81
% Mother US-Born	94.8	92.9	-0.66
% Mothers Earn Any Income	70.	67.9	-0.46
% Receiving Public Asst.	45.9	35.7	-1.78
% Receiving Unemployment	10.4	8.3	-0.63
Num other Kids	0.99	0.92	-0.44
% Any Prenatal Care	97.0	98.8	1.29
Month of first Doc Visit	2.9	2.6	-1.150
% Used During Pregnancy			
Alcohol	1.8	3.5	0.83
Drugs	4.6	4.7	0.05
Cigarettes	19.3	22.4	0.63
%White	22.3	32.9	1.96
%Black	63.0	47.1	-2.73
%Asian	0.8	0	-2.01
%Native American	2.4	0.05.9	1.32
%Other	11.6	14.1	0.64
% Latina	22.1	28.6	1.22

Baseline Characteristics of Mothers continued

	No Promise Mean	Promise Mean	T for difference
Proportion with level of education			
No Formal	0	0	
Less than Grade 8	3.0	7.1	1.41
Some HS	33.2	34.1	0.16
HS Diploma	30.8	25.9	-0.95
GED	5.4	5.9	0.19
Some College	20.9	21.2	0.06
Tech/Trade School	3.8	2.4	-0.77
BA/BS	2.8	2.4	-0.24
Graduate School	0.2	1.2	0.82
Earnings (1999 US$)	23869	21804	-0.97
% Reporting Chances of Marriage at Birth of Child			
No Chance	21.3	61.9	7.20
A little Chance	14.5	13.1	-0.36
Fifty Fifty Chance	20.7	9.6	-3.03
Good Chance	22.3	8.3	-3.93
Certain Chance	21.1	7.1	-4.15
Father characteristics at birth			
%Father in Jail	6.4	10.6	1.20
% Father Worked Last Week	69.0	41.2	-4.83
% Father has drug problem	6.4	23.6	3.61
Child Support Variables for Wave 2			
% Any Child Support Agreement	44.6	39.3	-0.92
% Late Payments	19.7	31.4	1.40
Breastfeeding Duration	3.5	3.1	-0.94
N	503	85	

Late support payment is conditional on any support agreement

Figure 2: Distribution of Time Elapsed Since Last Doctor's Visitfor Children whose Mothers Report a Promise of Support
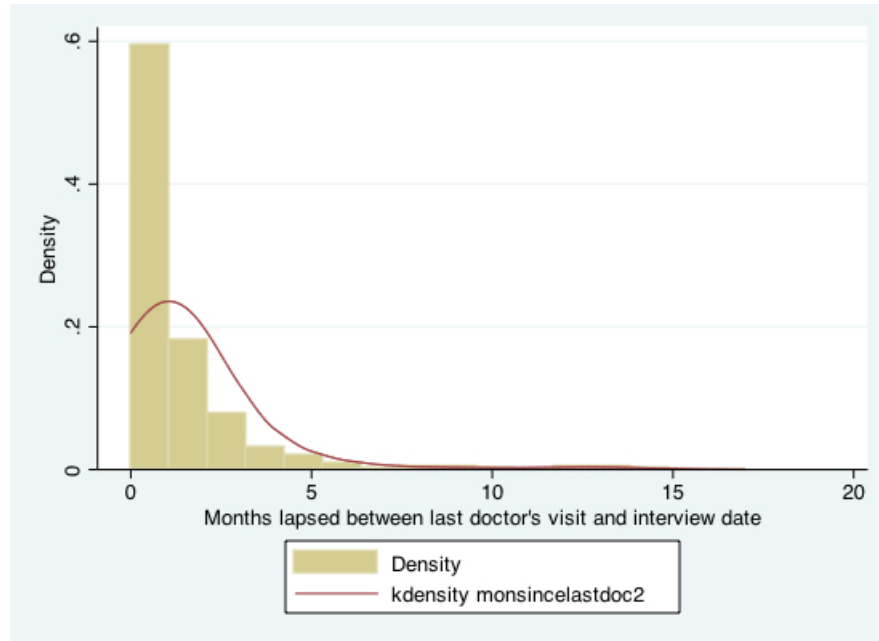
of the survey might affect answers about relationship quality. Edin & Kefalas (2007) tell of the "magical moment" of pregnancy, whereby everything seems like it will work out for the best and parents are more likely to report high satisfaction with their relationship and expectations for the future.

The pattern of support shows both positive and negative selection. While we might expect that a promise of support was correlated with higher socio-economic status, this does not appear to be the case. Women who report better relationships with the father are more likely to have received a promise of support, but race, income and education are not strong predictors of the promise. Black women are more likely to report a promise than White or Latina women, as are women born in the US. Younger women, also, were more likely to report a promise.

Figure 3: Distribution of Months Child Breastfed for Children whose Mothers Report No Promise of Support
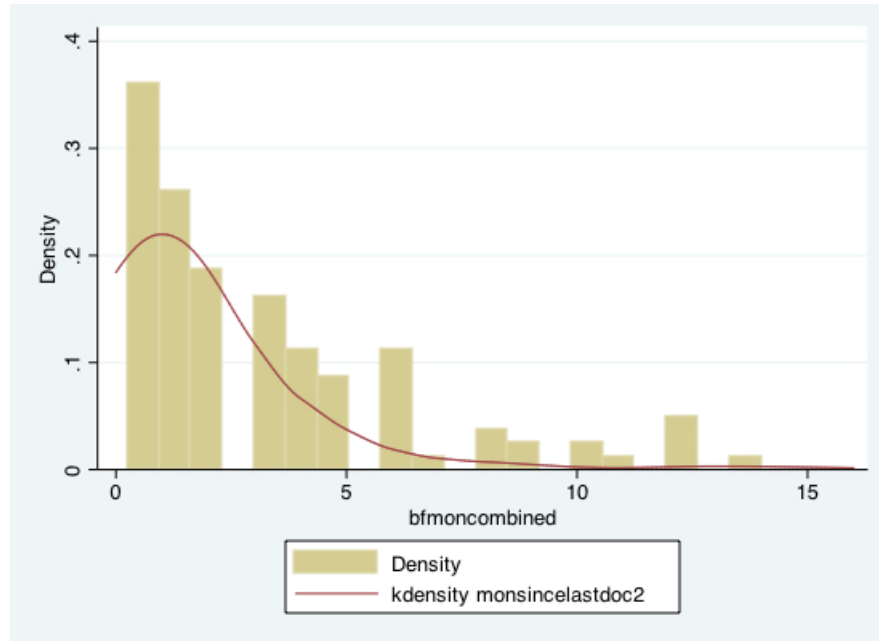
The effect of a financial promise before birth on child support during the first follow-up survey is not statistically different from zero. While about 44.6% of those receiving a promise have a formal or informal child support agreement, while 39.3% of women who did not receive a promise have an agreement later. This effect is not statistically different from zero. Nor is it for the propensity of late payments. Most of those reporting no promise and a child support agreement also reported that payments tend to be late.

Table 3.3, shows descriptive characteristics of women interviewed at the baseline by whether a promise of support was given, this time examining Black women and White women separately. Within race, there are surprisingly few differences by promise of support. Each group reports an average age of around 23. Differences in average education, income and responses to other questions, when broken out by race seem to disappear when comparing those who received a promise to those who didn't. Where socioeconomic differences do arise,

Figure 4: Distribution of Months Child Breastfed for Children whose Mothers Report a Promise of Support
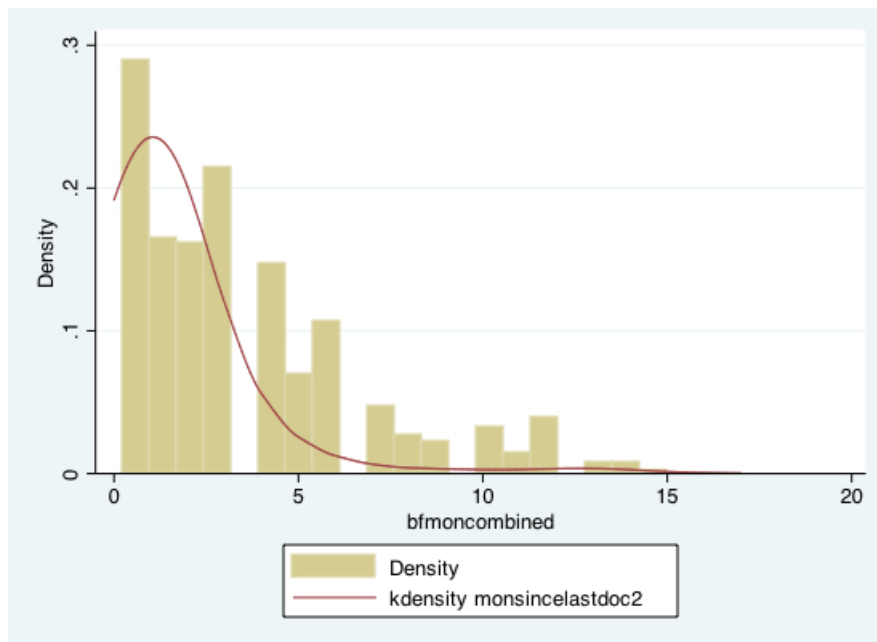
they do not point to a pattern of negative or positive selection for a promise. For instance, Black women who receive a promise of support are slightly more likely to be receiving unemployment (10.6% versus 3.9%). White women who receive the promise are slightly more likely to have received a bachelor's degree. In terms of propensity score matching, this is both useful as the issue of common support is readily solved. There exist people in the middle who are both receiving the treatment and not receiving the treatment.

Despite their outward similar appearance, the inclusion of attitudinal questions and additional information about the relationship and the father's character do uncover some differences. Those who received the promise, both Black and White women, report higher measures of subjective relationship quality. They tend to say that they want the father involved with the child more, and are less likely to report that the father suggested she get an abortion (32.6% versus 15.7% for Black women and 29% versus 17.2% for White women).

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Table 3: Characteristics of Black and White Respondents by Promise of Support

	Black mothers			White mothers		
	Promise	No Prom.	T diff	Promise	No Prom.	T diff
Mother's Age at birth	23.34	23.83	0.92	23.64	24.30	0.79
%Male child	53.9	51.1	-0.59	56.0	51.5	-0.57
Num Other Kids	1.24	1.16	-0.49	0.82	0.95	0.83
% Low birthweight	14.2	19.4	1.50	9.3	9.1	-0.05
Frequency of Arguments 3 is Never, 1 is Always						
Money	2.32	2.39	0.96	2.27	2.45	1.71
Time	2.19	2.39	2.63	2.19	2.19	-0.05
Sex	2.58	2.56	-0.29	2.65	2.65	-0.04
Pregnancy	2.64	2.38	-3.93	2.57	2.27	-2.77
Drugs	2.84	2.77	-1.39	2.69	2.44	-2.51
Cheating	2.45	2.49	0.58	2.54	2.39	-1.28
% Mother wants father involvement	96.8	66.1	-13.45	92.5	51.7	-7.99
% Father wants involve	98.4	83.5	-4.56	94.2	62.5	-4.29
% Father suggested abortion	15.7	32.6	4.70	17.2	29.0	2.02
% Cohabiting at birth	1.4	0	-1.37	2.7	0	-1.34
% in public housing	18.1	18.9	0.21	8.6	12.1	0.83
% Mother US born	97.7	96.9	-0.59	92.0	89.4	-0.64
Latina	2.6	1.6	-0.69	40.1	43.1	0.42
Economic Characteristics						
% Rec. any public asst	50.8	44.5	-1.32	52.4	41.5	-1.51
% Rec. unemployment	10.6	3.9	-2.39	9.2	12.3	0.71
Income (1999$)	19459	18900	-0.33	31087	24861	-1.53

Continued

Characteristics of Black and White Respondents by Promise of Support

	Black mothers			White mothers		
	Promise	No Prom.	T diff	Promise	No Prom.	T diff
Prenatal Behaviors						
% Any Prenatal Care	97.5	96.9	-0.40	97.8	100	1.19
Month of First Prenatal	2.86	3.03	0.95	2.66	2.8	0.57
% On/Off Rel. with Father	60.0	39.5	-4.41	51.9	53.0	0.16
% Alcohol	2.5	5.4	1.84	1.1	3.0	1.09
% Drugs	6.8	7.0	0.08	7.0	3.0	-1.17
% Cigarettes	21.6	26.4	1.21	31.0	27.3	-0.57
Education						
% No Formal Educ.	0	0		0	3.0	2.40
% Less than 8th Grade	1.8	2.3	0.43	8.0	7.6	-0.11
% Some HS	35.6	33.6	-0.45	29.4	28.8	-0.10
% HS Diploma	31.3	32.0	0.16	26.2	22.7	-0.56
% GED	5.8	6.33	0.18	3.7	10.6	2.10
% Some College	19.1	20.3	0.33	21.9	22.7	0.13
% Tech/Trade degree	3.5	3.1	-0.19	6.4	3.0	-1.03
% BA/BS	2.1	2.3	0.14	2.7	0	-1.34
% Grad Degree	0.7	0	-0.96	1.6	1.5	-0.05
Stated chances of marriage at birth of child						
% No Chance	20.5	75.8	14.3	35.8	70.0	4.97
% A Little Chance	15.0	6.3	-2.63	14.9	15.1	0.03
% 50/50 Chance	24.1	7.0	-4.39	13.9	9.1	-1.01
% Good Chance	22.1	6.3	-4.23	0.13	4.5	-1.97
% Certain Chance	18.4	4.7	-3.91	21.9	0.02	-3.94
One-year child characteristics						
Child's Age at 2nd interview	16.3	16.8	1.4	14.3	14.30	0.09
% Disabled Child	3.2	2.3	-0.54	3.8	4.5	0.28
Times saw doctor for illness	2.88	3.72	1.60	4.25	3.88	-0.37
Times went to ER	1.55	1.79	1.17	1.16	1.41	1.16
% Ever Breastfed	41.6	38.8	-0.61	49.7	57.6	1.09

They report arguing less on average, particularly about the pregnancy, and are more likely to say they expect to marry the baby's father. However, 60% of Black women receiving the promise reported being in an on-off relationship with the father, versus only 39.5% of the Black, non-promise population. This measure is mediated by more Black women reporting no lingering romantic relationship with the baby's father.

3.4 Methods

One potential problem is that mothers have significantly more information about their child's father than is observable. It may be that mothers are not responding to the commitment device itself, but some other, unobservable quality of the father. In the case that mothers who do not take their child to the doctor are the same mothers who had a child with delinquent fathers, this test cannot distinguish between parents who choose not to invest due to the level of security afforded by the commitment device or the level of security afforded by a responsible father. I attempt to control for mothers' proprietary information with various questions the mother answers about the father's trustworthiness, tendency to violence and other qualities. While marriages are said to be assortatively matched on the couple's preferences for investing in children's wealth (Peters & Siow 2002), it is unclear whether such matching is present in couples that do not marry, but do choose to bear children together.

In an ideal world, I would be able to observe the same mother and father pair in separate realities: for instance, when they chose to enter into a verbal or legal agreement about financial support but remained unmarried and then separately the same pair when the father does not offer a verbal promise of support. Barring the possibility of time travel, propensity score matching is also one way to replicate that experiment in part. By matching women with similar observable characteristics and particularly answers about the child's father, I

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can compare their children's health status with the hope of identifying an effect from the commitment device itself. More specifically, I use the mother's characteristics and reports of the father's characteristics to create propensity scores that predict whether a promise of financial support had been given at the time of birth of the child. This strategy hinges on the assumption that mother-father pairs with similar observable characteristics are also similar on unobservables. In the case where this is not true, this test will yield spurious results.

It is likely that unobserved heterogeneity plays a large role in how often a mother takes her child to the doctor. A mother's organizational skills, her own health status and experience with doctors as well as proximity to doctors she trusts may influence the number of times she takes her child to the doctor. In order to attempt to control for such heterogeneity, I control for a number prenatal health decisions made by mothers including drug and alcohol use and when prenatal care was first sought.

3.4.1   OLS with Father characteristics

I begin with a basic OLS specification of a health outcome on a 0-1 promise of support and various controls:

$$y_i = \alpha + \beta_1 promise_i + X_i\gamma + Z_i\psi + \sum_{i=0}^{N} babyage + \epsilon_i \tag{3.1}$$

where y is an outcome variable indicating mother's investments in the child's health. y is a 0-1 variable indicating whether the child was late for the last recommended doctor's visit ("late") or months the child was breastfed. 'Promise' is a dichotomous variable indicating whether the father made a promise of financial support to the mother by the time the baseline interview was conducted. X is a vector of controls including race, education, family characteristics, earnings and work status. Z is a vector of dichotomous variables about the mother's opinion of the father's character and trustworthiness.[3]

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[3]See Table 4 for the full list of variables

Babyage represents a series of indicator variables for the child's age in months at the time of the interview. A child of thirteen months will have a value of one for the 13-month dummy and a value of zero for all other age dummies. As the follow-up interview conducted around the child's first-year birthday was not collected at the same time for each child, the age variable requires some additional consideration. All other things equal, a child of 18 months will necessarily have a longer amount of time elapsed since his last check-up than a child of a 17 months. Controlling for age in this manner gives a separate constant to each month cohort, reducing the possibility that we ascribe reductions in months elapsed to the promise of support when it is actually only due to the passage of time. The equation is estimated on the full sample and then separated out by race for Black and White mothers.

3.4.2 Conditioning on current support agreements

A second set of OLS specifications conditions on the current state of support agreements between the mother and father. Using additional information given at the follow-up interview, I estimate the effects of a promise of support on health investments in the following way:

$$y_i = \alpha + \beta_1 promise_i + X_i\gamma + Z_i\psi + \sum_{i=0}^{N} babyage + \beta_2 AnySupportAgreement + \beta_3 LatePayment + \epsilon_i$$

(3.2)

where y, X, Z and babyage are as described above. AnySupportAgreement is a 0-1 variable for whether the mother reports having a child support arrangement at the time of the follow-up interview. And LatePayment is a 0-1 variable for whether that arranged child support is paid late (1) or on-time (0).

3.4.3 Propensity Score Matching

A number of matching methods exist with which I could estimate the effect of a promise of financial support on health investments in children. Though each of them should, in theory, present the same estimates as observations approach infinity, with finite observations, the choice of method is important. I follow Caliendo & Kopeinig (2008) and Black & Smith (2004). I estimate propensity scores for a promise of support using a logit model where the probability of receiving a promise is a function of observable characteristics.

Thus a mother's propensity score is calculated by:

$$P(Promise = 1|X) = \alpha + \beta_1 promise_i + X_i\gamma + Z_i\psi + \sum_{i=0}^{N} babyage + \epsilon_i \qquad (3.3)$$

where X, Z and babyage are the full set of controls found in the OLS regression labeled (1) in Table 4 as well as father characteristics and age dummies. I then use the propensity scores in place of the treatment–or support promised–to create a matched sample and estimate the effects on the probability of late doctor's visits and duration of breastfeeding. I employ three methods of matching on propensity scores; nearest neighbor matching, kernel distribution[4] and stratification.

In subsequent specifications, I estimate the propensity score conditioning on whether a current agreement of support is in place and excluding the additional father characteristics such as whether he was in jail.

4 Results

4.1 OLS

In the interest of external validity, I weight the sample using the national weights as constructed by the Fragile Families. The choice of weights, at least within those offered by the

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[4]For kernel estimation, standard errors are bootstrapped using 200 repetitions.

data, does not affect the point estimates significantly, though the weighted and unweighted results do diverge. Results on months elapsed since last doctor's visit are in Table 4.1.

Table 4.1 shows a series of regressions for the whole sample (1), and then split out by race (2-5). The first column shows the regression with all controls–race, education, socioeconomic status, father characteristics–for the whole sample. Here, the promise of support shows a reduction in the probability that a child was late to his last recommended doctor visit, but the effect is not distinguishable from zero. The second two columns are for White mothers only. (3) adds upon (2) with additional controls for father characteristics such as whether the father was in jail for the birth of the baby. Again, here, the effect of the support promise is indistinguishable from zero when all controls are included.The last two columns replicate (2) and (3) for Black mothers only, and here we see a large, measurable effect in the expected direction. Women reporting the promise were about 24 percentage points less likely to be late for the last recommended doctor's visit than women who did not receive the promise. While education and income do not appear to have a large impact on whether the one-year-old children have been to the doctor recently for Black mothers, the promise of support exerts a large effect. In contrast, income is important for White mothers, with additional income reducing the probability that a child will be late to a recommended checkup. These differences between the coefficients for White and Black women are statistically significant at the 1% level.

Additionally in Table 4.1, prenatal behaviors and objective estimations of the father's character exert different effects for White mothers and Black mothers. Whether the father worked around the time of the birth seems to be a strong indicator that a White mother will not be late for the child's checkup. Black women show a stronger association with whether

Table 4: Late Doctor's visit on Support Promise using OLS

	All	White	White	Black	Black
	(1)	(2)	(3)	(4)	(5)
Father Promised $ Support	-0.0421	0.122*	0.105	-0.234**	-0.246***
	(0.0493)	(0.0671)	(0.0771)	(0.0988)	(0.0950)
Mother's Age at birth	-0.00342	-0.00864**	-0.00811**	-0.000143	0.000979
	(0.00498)	(0.00432)	(0.00398)	(0.00901)	(0.00916)
Male Child	-0.0504	0.0162	-0.000659	-0.0969*	-0.0825
	(0.0410)	(0.0693)	(0.0629)	(0.0535)	(0.0527)
Father suggested abortion	0.00712	0.136	0.158	-0.0550	-0.0364
	(0.0335)	(0.101)	(0.106)	(0.0474)	(0.0444)
Num Other Kids	-0.00649	-0.0478	-0.0541	0.000166	-0.00991
	(0.0175)	(0.0383)	(0.0379)	(0.0265)	(0.0248)
Race, Education and Income					
Black	0.0735				
	(0.0801)				
Asian	-0.104				
	(0.0696)				
Nat American	0.153				
	(0.122)				
Other	0.0162				
	(0.0825)				
Latina	0.000681	0.0191	0.0287	-0.0438	-0.0303
	(0.0511)	(0.0502)	(0.0511)	(0.0834)	(0.0813)
HS Diploma or GED	0.0175	0.0285	0.0539	0.00714	-0.00536
	(0.0426)	(0.0783)	(0.0734)	(0.0669)	(0.0650)
Some college	0.0430	0.000826	0.0407	0.0556	-0.00269
	(0.0474)	(0.0909)	(0.0859)	(0.0881)	(0.0835)
Tech/Trade School	0.0782	0.186*	0.222**	-0.0556	0.00672
	(0.0767)	(0.104)	(0.111)	(0.0883)	(0.0912)
BA/BS	0.182	0.181	0.183	0.0599	0.0191
	(0.136)	(0.122)	(0.156)	(0.174)	(0.174)
Grad School	-0.110	0.504	0.515	-0.201	-0.123
	(0.179)	(0.357)	(0.409)	(0.196)	(0.182)
Log of income at birth	-0.0610**	-0.0957*	-0.113**	-0.0146	-0.0236
	(0.0280)	(0.0563)	(0.0568)	(0.0280)	(0.0279)

	All	White	White	Black	Black
	(1)	(2)	(3)	(4)	(5)
Prenatal Investment Behaviors					
Month of first Prenatal visit	0.00108	0.0133	0.0303	0.00285	0.00206
	(0.0104)	(0.0188)	(0.0226)	(0.0124)	(0.0123)
Any prenatal care?	-0.160	-0.396	-0.265	-0.206	-0.154
	(0.144)	(0.286)	(0.288)	(0.165)	(0.150)
Cigarettes	-0.0585	0.0318	0.0368	-0.0965**	-0.115**
	(0.0370)	(0.0822)	(0.0787)	(0.0451)	(0.0462)
Drugs	0.0351	-0.210	-0.194	0.115	0.0553
	(0.0719)	(0.135)	(0.132)	(0.101)	(0.0685)
Alcohol	-0.0514	-0.512**	-0.568**	-0.168	-0.0965
	(0.0737)	(0.230)	(0.232)	(0.114)	(0.0987)
Father characteristics at birth					
Father in jail	0.0208		-0.329**		0.0729
	(0.0540)		(0.135)		(0.0724)
Father worked last week	0.0716**		0.0213		0.0237
	(0.0348)		(0.0584)		(0.0487)
Father has drug problem	0.122		0.0364		0.379***
	(0.0818)		(0.0851)		(0.123)
Constant	0.908***	1.425**	1.383**	1.013**	1.013**
	(0.329)	(0.673)	(0.661)	(0.453)	(0.443)
Observations	588	140	140	357	355
R-squared	0.166	0.357	0.406	0.260	0.311

Table title: Late Doctor's Visit Continued

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Indicator variables for age are included.

e.g., If mother was interviewed when child was 13 months, age13=1 and all others =0

Controls for father's race and education are included

the father has a drug problem, which increases the likelihood that the child will miss the recommended checkup by some period of time.

Though not reported here, additional specifications were performed that included a variable inicating whether the child is covered by Medicare or private health insurance at the time of the follow-up interview. The coefficients on these indicator variables are insignificant and do not have a measurable effect on the coefficient on the financial support promise. This may indicate that the financial aspect of these investments in children is less important than other determinants, perhaps unobserved, such as pre-birth decisions.

Table 4.1 shows results using breastfeeding as the outcome variable. The first regression is for the entire sample, while specifications 2-5 are split by race, with 2-3 representing White mothers and 4-5 representing Black mothers. White women who received a promise of support breastfed their children for two more months than White women who did not receive the promise. Education also exerts a strong effect. Women who graduated from college or even attended some college breastfed the focal child for about 2 more months on average than those who had only some high school or less education. A few measures of prenatal investment are also particularly salient. White women who used cigarettes or drugs during pregnancy spent on average 3-4 fewer months breastfeeding the child.

4.1.1 Results on 'Ever Breastfed'

The same specifications were performed using ever breastfed as an independent variable instead of months breastfed, but no significant coefficients emerged. There is some evidence, by way of descriptive statistics at the baseline, that mothers who breastfeed at all are slightly different than mothers who do not. Mothers who breastfed were slightly more educated and slightly older than mothers who did not attempt breastfeeding at all.

Table 5: Months Breastfeeding on Support Promise using OLS

	All	White	White	Black	Black
	(1)	(2)	(3)	(4)	(5)
Father Promised $	1.212**	0.992	2.440*	0.658	1.155
	(0.596)	(1.129)	(1.271)	(1.028)	(1.108)
Mother's Age at birth	0.0833*	-0.0139	-0.0181	0.114	0.120
	(0.0472)	(0.0674)	(0.0571)	(0.0935)	(0.0960)
Male Child	0.256	-0.315	0.536	1.062	1.193
	(0.453)	(0.821)	(0.815)	(0.727)	(0.731)
Father suggested abortion	1.466**	-2.263	-1.467	2.314**	2.222**
	(0.628)	(1.597)	(1.577)	(0.971)	(0.978)
Num Other Kids	0.851***	1.306*	1.258**	0.531*	0.618**
	(0.247)	(0.674)	(0.522)	(0.283)	(0.285)
Race, Education and Income					
Black	1.587*				
	(0.898)				
Asian	3.601				
	(2.536)				
Native American	-1.330				
	(1.1078)				
Other	-1.179				
	(0.869)				
Latina	1.254**	-0.0877	-0.786	1.798	1.920
	(0.553)	(1.060)	(0.814)	(1.315)	(1.298)
HS Diploma or GED	0.457	0.152	0.333	0.828	0.889
	(0.629)	(1.009)	(0.899)	(1.113)	(1.127)
Some college	0.824	1.919	1.770	0.893	0.736
	(0.662)	(1.439)	(1.473)	(1.263)	(1.252)
Tech/Trade school	-4.941***			-1.559	-3.045
	(1.577)			(1.767)	(2.172)
BA/BS	0.557	3.057	4.293*	-0.147	-0.737
	(1.762)	(2.703)	(2.327)	(2.029)	(2.137)
Grad degree	-2.570	-1.300	3.369	-6.296**	-5.363*
	(2.413)	(1.924)	(3.339)	(2.750)	(2.770)
Log of income at birth	0.667***	1.026	0.703	0.554	0.610
	(0.231)	(0.644)	(0.482)	(0.404)	(0.402)

|	Months Breastfeeding Continued				
Prenatal Investment Behaviors					
Month of First Prenatal	-0.350**	-0.258	-0.303	-0.204	-0.277
	(0.159)	(0.196)	(0.198)	(0.214)	(0.217)
Any Prenatal Care?	-5.505***	0.349	2.996	-4.675**	-4.369**
	(1.676)	(2.012)	(2.396)	(1.989)	(1.955)
Cigarettes	-1.027*	-2.698**	-3.178***	-0.540	-1.252
	(0.563)	(1.031)	(0.967)	(1.365)	(1.546)
Drugs	-0.339	-4.553*	-5.273**	1.618	0.626
	(0.986)	(2.250)	(1.940)	(1.283)	(1.226)
Alcohol	-2.130***			-1.043	0.274
	(0.765)			(1.980)	(2.023)
Father characteristics at birth					
Father in jail	-2.915**		-4.609**		-3.024*
	(1.230)		(1.891)		(1.605)
Father worked week before birth	-0.524		-3.739**		0.271
	(0.565)		(1.652)		(0.670)
Father has drug problem	0.892		0.243		3.030**
	(0.802)		(0.964)		(1.435)
Constant	-0.992	-6.478	-4.900	0.605	-1.113
	(3.528)	(7.404)	(5.305)	(4.995)	(5.119)
Observations	255	65	65	143	142
R-squared	0.474	0.595	0.667	0.590	0.616

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Indicator variables for age are included

e.g., If mother was interviewed when child was 13 months, age13=1 and all others =0

Controls for father's race and education are included

Figure 5: Propensity Score Distribution for Full Set of Controls
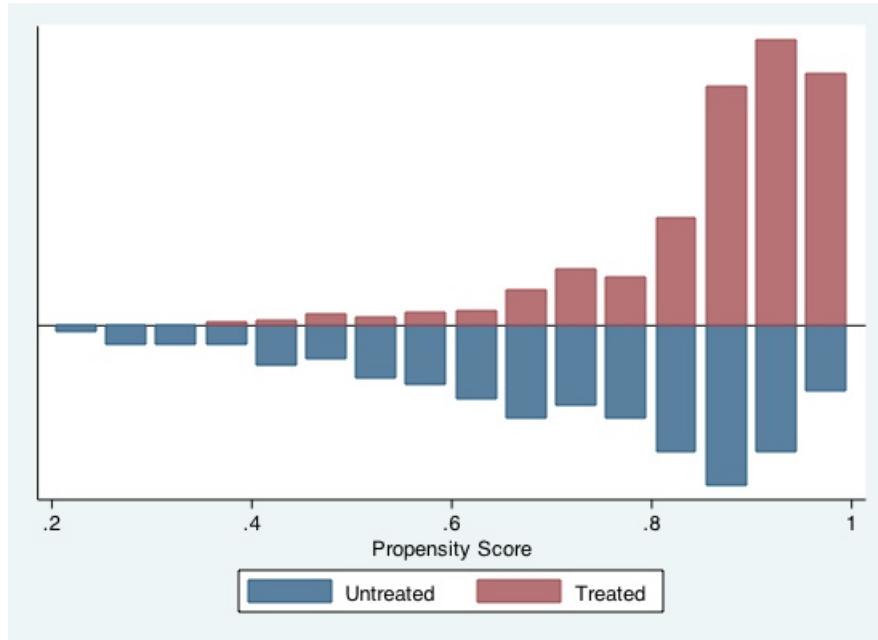
4.2 Results on Propensity Score Matching

The results associated with a propensity score matching strategy are decidedly different from the results of the parsimonious regressions, though different results by race are still present and magnitudes, as predicted, are smaller for propensity score matching than for OLS. The results are shown in Tables 4.2 and 4.2 and a propensity score distribution is in Figure 4.2. Table 4.2 is for a late doctor's visit and Table 4.2 uses breastfeeding as an outcome variable. Each of Tables 4.2 and 4.2 shows three different methods of matching based on three iterations of controls included in calculating the propensity score. The first specification uses the full set of controls as listed in Table 4.1 for OLS. The second specification conditions on current agreements of support as in (2) and (4) of Table 4.1. The final specification leaves out the additional father characteristics such as whether he was in jail when the child was born as in regression (2) and (4) of Table 4.1.

Table 6: Results on Late 1-year visit using Propensity Score Matching on Promise of Support

	(1) Full	(2) Add Agree	(3) No Add'l Father
	Full Sample		
Nearest	-0.053	-0.098	0.048
Neighbor	(0.054)	(0.060)	(0.056)
	-0.972	-1.631	0.851
Kernel	-0.063	-0.061	0.018
	(0.047)	(0.069)	(0.061)
	-1.343	-1.277	0.294
Stratification	-0.067	-0.069	0.02
	(0.060)	(0.060)	(0.058)
	-1.108	-1.14	0.347
	White Mothers		
Nearest	0.044	0.064	-0.079
Neighbor	(0.054)	(0.054)	(0.069)
	0.803	1.197	-1.159
Kernel	0.017	0.014	0.018
	(0.079)	(0.078)	(0.061)
	0.212	0.185	0.294
Stratification	0.06	0.061	-0.09
	(0.039)	(0.038)	(0.053)
	1.515	1.576	-1.697
	Black Mothers		
Nearest	-0.085	-0.186	-0.079
Neighbor	(0.071)	(0.085)	(0.069)
	-1.199	-2.181	1.159
Kernel	-0.096	-0.094	-0.09
	(0.072)	(0.066)	(0.053)
	1.332	-1.421	-1.697
Stratification	-0.124	-0.121	-0.093
	(-)	(0.058)	(0.066)
		-1.107	-1.41

Standard errors in parentheses, associated t-stat below
*** p<0.01, ** p<0.05, * p<0.1
(1) includes the full set of controls as listed in Table 4
(2) is as (1) plus whether a support agreement is in effect
(3) is as (1) minus father characteristics such as drug problem
Kernel estimation standard errors are bootstrapped with 200 repetitions
Blanks indicate that analytical errors could not be calculated

Table 7: Results on Breastfeeding Duration using Propensity Score Matching on Promise of Support

	(1) Full	(2) Add Agreement	(3) No Add'l Father
Full Sample			
Nearest	0.771	0.821	1.275
Neighbor	(0.523)	(0.578)	(0.527)
	1.473	1.422	2.322
Kernel	0.657	0.677	0.922
	(0.506)	(0.488)	(0.379)
	1.299	1.388	2.431
Stratification	0.628	0.665	1.042
	(0.319)	(0.314)	(-)
	1.968	2.116	
White Mothers			
Nearest	1.116	1.016	1.018
Neighbor	(0.3556)	(0.55)	(0.501)
	2.006	2.09	2.031
Kernel	1.424	1.489	1.274
	(0.657)	(0.673)	(0.611)
	2.168	2.212	2.087
Stratification			1.157
	(-)	(-)	(-)
Black Mothers			
	full controls	full controls	no father char
Nearest	1.372	1.507	0.716
Neighbor	(0.632)	(0.723)	(0.563)
	2.176	2.083	1.27
Kernel	0.451	0.431	0.747
	(0.705)	(0.705)	(0.637)
	0.64	0.611	1.172
Stratification			0.995
	(-)	(-)	(-)

Standard errors in parentheses, associated t-stat below
*** p<0.01, ** p<0.05, * p<0.1
(1) includes the full set of controls as listed in Table 4
(2) is as (1) plus whether a support agreement is in effect
(3) is as (1) minus father characteristics such as drug problem
Kernel estimation standard errors are bootstrapped with 200 repetitions
Blanks indicate that analytical errors could not be calculated

Though the pattern of significance varies among which controls are included, there is no strong evidence for an effect of the promise on doctor's visits. Including all important controls leads to weakly significant results, but they are highly dependent on specification. For instance, specification (1) for Black mothers, which includes the full set of controls, indicates some weak evidence of an effect. When using nearest neighbor matching, Black mothers most likely to receive the promise are shown to be 18 percentage points less likely to be late than their counterparts unlikely to receive the promise. However, this result is not robust to different matching methods, or leaving out variables that are determined later.

For breastfeeding, the results are somewhat stronger and slightly more consistent, particularly for White mothers, though they too are sensitive to specification. For Black mothers, nearest neighbor matching leads to an effect of 1.3-1.5 additional breastfeeding months for those likely to receive the promise of support. For White mothers, nearest neighbor matching and kernel matching lead to a similar effect, on the order of 1.1-1.5 months, but with different sets of controls. In the full sample, effects are smaller and much more varied, ranging from 0.6-1.2 months. They are only significant, however, when using stratification matching, with an effect of about 0.6 months. The divergence here again indicates that there race and class may play a role in the interpretation of survey questions, particularly questions concerning expectations of child support.

4.3   Results on Actual versus Promised Financial Support

Perhaps the most interesting aspect of the question of whether promises of financial support affect behavior is whether, when we condition on the fulfillment of the promise, it continues to exert an effect. Though the Fragile Families Data Set does provide information on child support paid and the existence of legal and informal support agreements, the data are not well populated, so the work done here is with a reduced sample.

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With the goal of maintaining the insight gained from the full sample results and deepening our understanding of the interaction between expected and actual income, I repeat the analysis on a subsample of the Fragile Families Data which includes women who answered questions about actual financial support from the child's father.

A replication of the earlier OLS regressions but adding the mother's report of how frequently the father pays child support on time is displayed in Tables 4.3 and 4.3. The first column is for the entirety of the above sample that answers questions about child support, the second two are for White women, adding in the late payment variable for (3). Specifications (4) and (5) are for Black women, again adding the late payment variable in (5).

Table 8: Results on late visit using OLS with actualization of child support in 1st year. Full controls as used in earlier specifications are present.

	All	White	White	Black	Black
	(1)	(2)	(3)	(4)	(5)
Father Promise	-0.048	0.103	0.085	-0.25**	-0.25***
	(0.049)	(0.076)	(0.076)	(0.095)	(0.095)
Any Support Agreement	0.034	0.011	0.046	-0.011	0.006
	(0.038)	(0.062)	(0.069)	(0.046)	(0.045)
Late support payment	0.08**		0.12		0.11**
	(0.039)		(0.077)		(0.049)
Constant	0.80**	1.36**	1.25*	1.02**	0.90**
	(0.32)	(0.65)	(0.64)	(0.45)	(0.43)
Observations	588	140	140	355	355
R-squared	0.171	0.406	0.413	0.311	0.317

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Indicator variables for age are included
e.g., If mother was interviewed when child was 13 months, age13=1, all others =0
All include full set of controls are as listed in Table 4

For Black women, the promise of support reduces the probability of having gone late to the doctor by about 25 percentage points. Inclusion of a mother's report of late child

Table 9: Results on breastfeeding duration in months using OLS with actualization of child support in 1st year. Full controls as used in earlier specifications are present.

	All	White	White	Black	Black
	(1)	(2)	(3)	(4)	(5)
Father Promise \$	1.20**	2.37*	2.71*	1.22	0.81
	(0.59)	(1.36)	(1.43)	(1.09)	(1.12)
Any Support Agreement	0.75	-0.25	0.21	0.43	1.36*
	(0.52)	(1.14)	(1.17)	(0.72)	(0.78)
Late support payment	2.80***		1.83		3.53***
	(0.75)		(1.66)		(1.04)
Constant	-4.12	-4.30	-6.14	-1.75	-6.49
	(3.46)	(6.40)	(6.08)	(4.93)	(5.07)
Observations	255	65	65	142	142
R-squared	0.513	0.668	0.677	0.619	0.666

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Indicator variables for age are included
e.g., If mother was interviewed when child was 13 months, age13=1, all others =0
All include full set of controls are as listed in Table 4

support payments, (5), has no effect on the coefficient on the promise of support for Black women while late payments increase the probability that she will be late to the doctor's visit by about 11 percentage points. The variable of whether the father is late on payment also increases the probability that a mother will be late to take her child to the doctor. This result is especially robust for Black women and is around 11 percentage points. For White women, the effect is only present without other controls for father characteristics (not shown). While this may indicate some sort of assortative matching on preferences for investing in children, it also may be that the late payment induces the mother to put off the doctor's appointment because she cannot pay for it.

Other key variables, such as income, whether the mother smoked during the pregnancy, and whether the father worked in the week before the first interview, have different effects depending on race. Prenatal substance use is associated with decreased likelihood that the child was late to his doctor's appointment, though the effects are only strong for Black women who smoked and White women who drank alcohol during pregnancy. In terms of father characteristics, whether the father has a drug problem increased the likelihood that Black women would take their children late to the doctor. These differing effects might be due to the reduced sample size, but it might also be attributable to women assigning confidence to different types of signals in assessing their future income streams and ability to pay for their children's health care.

Table 2.9 shows results using breastfeeding as an outcome variable. Here, a promise of support retains a significant effect on duration of breastfeeding only for White women (specification 3) and is associated with almost three months longer breastfeeding durations. White women who received the promise of support breastfed their children almost three months longer than White women who did not, conditioning on the full set of controls including

father characteristics and current support agreements. Late payments, interestingly, lead to longer breastfeeding for Black women as did (weakly) the presence of a support agreement, while these had no effect for White women. The earlier promise of support was more predictive of breastfeeding duration for White women than current agreements, while the opposite appears to be true for Black women.

5 Conclusions

The unique makeup of the Fragile Families dataset gives researchers a very different picture of how expectations of income may affect decision-making and gives insight into survey design. While economic theory suggests that future income, such as the knowledge of a coming raise or inheritance, generally causes individuals to increase their spending now in order to smooth consumption over time, it seems that not all sources of future income are the same. In this study, I examine the relationship between expectations of child support and key investments in children, namely taking the child in for regular checkups and breastfeeding duration. While regular doctors' visits in the first two years are crucial to a child's development and well-being, primarily due to the administration of vaccines and the ability of physicians to intervene in cases of abuse, it is also a decision that might be limited by financial constraints. WIthout the urgency of a crisis situation, we may see these visits put off by the uninsured or those with little ability to pay for health care. Breastfeeding, on the other hand, is less financially constraining and we may not expect to see an effect on breastfeeding duration of promises of support.

Descriptive statistics on the individuals who receive promises of support reveals that within race or class, the observable differences between women who were promised financial support and those who were not promise support, are minimal. While the average White,

middle-class woman who receives a promise is noticeably different from the average Black, poor woman who receives a promise, she is not much different than the average White, middle-class woman who doesn't receive a promise of support. This leads me to separate regressions out by race.

My results show that a while a simple regression attaches little to no weight to a promise of support in the mother's decision to take the child to the doctor, separating out the regression by race leads to strong results for Black mothers in particular. Black mothers who did not receive a promise of support are more likely to be behind in doctor's visits, particularly being late for doctor's visits occurring between 12 and 18 months more often more than women who did receive a promise of support. When propensity score matching is employed, no effect is found.

Breastfeeding is another health investment that, though not particularly financially constraining, is also affected by a father's promise of support. OLS suggests that the effect is only significant for White women, but propensity score matching leads to some evidence that there is an effect for Black women as well. OLS results show that Black women are more swayed by current income streams as measured by actualization of child support, as opposed to a promise in the past of financial assistance. Interestingly, the financial constraint of buying formula may bind in Black women as they are more likely to breastfeed longer if the baby's father does not pay child support on time. Propensity score matching reinforces the separation by race, with White mothers most likely to receive the promise reporting significantly longer breastfeeding duration than White mothers who did not receive the promise, though the magnitude of the effect is smaller than in OLS. The effect is weakly present for Black mothers, but highly dependent on the matching estimator form.

The ethnographic and sociology literatures on motherhood, childbearing, and financial support among unmarried couples inform us to be wary of attitudinal questions when comparing groups with different socioeconomic status. The differences shown here by race indicate that it may be that a question of promised support means something very different to those in different communities. If so, the use of questions about expectations should be carefully vetted and tested for cultural norms before inclusion in studies.

It does appear that a question of whether financial support has been promised is a weak indicator of how the mother will invest in the child. This study cannot identify the mechanism by which the effect takes place. It may be that cultural expectations dictate behavior or that a promise of support directly affects her expectations of income. More research is needed to distinguish between these effects.

It is clear, though, that controlling for characteristics of the person making the promise is important. The dependability or credibility of the person promising financial support likely affects the mother's estimation of the promise's worth, and thus her expectations of future income. Including these controls in regression analysis leads to highly different results in some cases, suggesting that there are multiple dimensions to expectations of future income.

For future surveys, it would be useful to include questions in follow-up interviews that directly address the earlier promise. Whether the mother thinks the promise had been fulfilled, or was being fulfilled, would also be helpful in identifying the effect and providing checks. Inclusion of questions about expectations of father involvement in survey analysis in hopes of determining the effect of income expectations on investments in children, current or future, may yet have some merit, but more analysis is needed to test the robustness of the claims. The addition of further controls and more information about the couples

may contribute to a greater understanding of the mechanisms behind a promise of support exerting effort on investments in children.

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