Socioeconomic Status, Neighborhood, Household Behavior, and Children's Health in the

United States: Evidence from Children's Health Survey Data

By

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Abstract

Using insights from economics, pediatrics, psychology, and sociology, this paper examines the effects of income, income inequality, neighborhood characteristics, maternal health, the participation in religious services, breastfeeding, household smoking, and racial/ethnic composition of population on child health. Using aggregate data on children's health and well-being for 50 U.S. states derived from the National Survey of Children's Health (NSCH, 2005), we document the following results: (1) the independent effects of income inequality on children's health vary across domains of child health outcomes, as some aspects of child health (mental health) are more responsive to the immediate environment of family and neighborhood than others; (2) neighborhood characteristics are powerful predictors of children's health; (3) there is a large effect of maternal health on children's health; (4) children who participate in religious services at least once a week have less socio-emotional difficulties compared to children who do not, and (5) breastfeeding has beneficial effect on children's health, while household smoking has negative effect on children's health and well-being.

1. Introduction

In this paper we empirically examine determinants of children's health and well-being in the United States, using aggregated data for the 50 U.S. states, derived from the National Survey of Children's Health (NSCH, 2005). We are especially interested in addressing the following five questions: (1) Does income inequality have an independent effect on children's health?; (2) Are the neighborhood structural characteristics a powerful predictors of children's health and well-being? Or is the health status of children living in neighborhood with high level of safety greater than that of children living in neighborhood with low levels of safety?; (3) Does maternal health affect children's health?; (4) Do religious children have better health outcomes?; and (5) How does

household health behavior (such as breastfeeding of child, household smoking) affect children's health?

The health of a population depends upon many factors such as income, education, sanitary and medical facilities, culture, social control, climate, and special phases of the environment. The relationship between socioeconomic status (SES) and health is one of the most robust and well documented findings in social science. That wealthy people live longer and have lower morbidity, on average, than do poor people has been well documented across countries, within countries at a point in time, and over time with economic growth (Case et al, 2002; Currie and Stabile, 2003).

Research linking income inequality to population health within and among industrialized nations has captured the interest of social epidemiologists from diverse disciplines. The central claim of this research is that the level of income inequality in a nation, state, or community is linked in a causal way to the health of the population. More specifically, as income inequality increases, health declines. This claim is consistent with medical sociologists' long-standing contention that characteristics of the societies in which we live influence health and well-being independent of individual resources, skills, and behaviors (Durkheim, [1897] 1951; Faris and Dunham, 1939; and Susser, Watson, and Hopper, 1985). Despite increasing interests in examining the effect of inequality on population health, empirical evidence regarding the aggregate link between inequality and health remains tenuous. Prior research in this area has been criticized on several grounds, most notably for its reliance on bivariate analyses that exclude relevant controls such as the racial composition of the population (Judge, 1995; Judge and Mulligan, and Benzeval, 1998; Mellor and Milyo, 2001). Analyses that add those controls find that the

association of income inequality with population health becomes insignificant (Deaton and Lubotsky, 2003; Mellor and Milyo, 2001; and McLeod et al. 2004), raising fundamental questions about the evidence on which claims of inequality's effects on health rely. What should we conclude about the effect of income inequality on health in light of these conflicting results? We re-evaluate this question in the analysis of the associations between income inequality, racial composition, and the aggregate well-being of children in the 50 states of the U.S.

Research on the contribution of neighborhood characteristics to individual health has progressed rapidly over the last decade. Mounting empirical evidence of neighborhood socioeconomic structure effects on a range of health outcomes including mortality (Haan, Kaplan, and Camacho, 1987), heart disease (LeClere, Rogers, and Peters, 1998), number of chronic conditions (Robert, 1998), and self-reported health (Malmstrom, Sundquist, and Johansson, 1999) has fueled calls for continued research on the health effects of multiple dimensions of socioeconomic status and the mechanisms that may account for the community structure-health link (Robert, 1999). Despite these efforts, neighborhood-effects research on health has typically focused on only one dimension of neighborhood structure--the prevalence of economic deprivation--and has yet to explore competing hypotheses regarding the community-level mediators of structural effects of health (Browning, and Cagney, 2003). In this paper, we draw on collective efficacy theory (Sampson, Rauldenbush, and Earls, 1997) and Wilson's theory of neighborhood decline (Wilson 1987; 1996), and extend the typical focus on the health consequences of neighborhood poverty and income to include a range of other structural characteristics of neighborhoods including supportive neighborhood, safety of child in

the neighborhood, and issues with child care and investigate their roles in the determination of children's health and well-being.

Children's health may also be affected by the health status of their parents, possibly through an inherited susceptibility to different diseases, a less healthy uterine environment, or lower quality care by sick parents. In addition, the health of parents and children might be affected by common but unmeasured environmental factors, resulting in a correlation between their health levels (Case et al. 2002). It is possible that parental health is a `third factor' that accounts for the income effect in children's health: an income effect in children's health might be observed if parents in poor health have lower earnings, and poor health is transmitted from parents to children--producing a spurious correlation between income and children's health. This line of reasoning suggests that we should include controls for parental health in the determination of children's health. However, doing so has several potential pitfalls. If the effect of health of parents is affected by their income levels, and income is measured with error, then the `effects' of parental health may simply reflect the effects of income. In addition, if the health of both parents and children are affected by income, the parental health may serve as a proxy for the income levels experienced by children at earlier ages. For these reasons, we cannot clearly separate the effects of parent's health and family income on children's health. Mindful of these problems, we estimate models with additional control for maternal health status (Maternal health is percent of children whose mother's physical and mental health is excellent or very good), to see whether this eliminates the income effect in children's health. Ideally we should include both mother's and father's health status as

independent variables in the determination of children's health, but do not have information on father's health status. Therefore, we are limited by the availability of data.

Family and cultural norms and activities are gaining acceptance as factors in the development of competent and resilient youth (Nettles et al., 1994; Rutter, 1985). Despite the recognition that family routines and values are crucial to children's development, economic studies have rarely addressed the contribution of children's or parental religious activities to children's health (Recent psychiatric research has attempted to address this issue. See Varon and Riley, 1999). In this paper, we investigate the possibility that level of participation in religious activities by children and parents may also be a useful indicator of child functioning and mental health outcomes.

Studies examining the determinants of children's health have also documented important roles for household health behavior such as breastfeeding, and smoking in the house. There are three previous economic studies that are particularly relevant for this paper. The Cebu Study Team estimated child health production functions for diarrhea, febrile respiratory infection, and weight with data from Cebu in the Philippines for children up to 2 years old. Individual, household, and community variables were found to affect child health. The study concluded that breastfeeding reduced the incidence of diarrhea but appeared to have little effect on respiratory infections. Barrera (1991) estimated a health production for child height for age with survey data from Bicol in the Philippines. His results showed that the growth benefits from exclusive breastfeeding differed by mother's education levels. Children with less-educated mothers had the most gains. Senauer and Kassaouf (2000) also found strong evidence in favor of positive and significant impact of breastfeeding on children's health. Similarly, studies have

documented negative impact of smoking on health (See the study by Rivard, Gautrin, Malo, and Suissa (1999). They analyzed the relation between maternal smoking and clinically diagnosed incident cases of childhood asthma and found significant relationship.} Following past studies, in this paper we also investigate the role of child's family behavior on children's self-reported health and well-being in the U.S. In particular, we explore the role of factors such as reading to young children (children who are read to every day), household smoking (children who live in the household where someone smokes), and breastfeeding (children aged 0-5 who were ever breastfed) on children's health and well-being.

The remainder of this paper is organized as follows. Section 2 describes the conceptual model underlying this study. Section 3 provides description of data, and the measures and potential factors of children' health and well-being. Section 4 discusses the empirical specifications and findings. We conclude in Section 5.

2. Data and Methodology

The data has been obtained from the NSCH, 2005. The NSCH provides information on the health and well-being of children in the 50 States and the District of Columbia. NSCH was fielded using the State and Local Area Integrated Telephone Survey (SLAITS) mechanism. Approximately 1.9 million telephone numbers were randomly generated for inclusion in the NSCH. After eliminating the numbers that were determined to be nonresidential or nonworking, the remaining numbers were called to identify households with children less than 18 years of age. From each identified household, one child was randomly selected to be focus of the interview. The respondent

was the parent or guardian in the household who was most knowledgeable about the health and health care of the children under 18 years of age. For 79% of the children, the respondent was the mother. Respondents for the remaining children were fathers (17%), grandparents (3%), or other relatives or guardians (1%).

Data collection began on January 29, 2003 and ended on July 1, 2004. A computer assisted telephone interview system was used to collect the data. A total of 102,353 interviews were completed for the NSCH. The number of completed interviews varied by State, ranging from 1,848 in New Mexico to 2,241 in Louisiana and Ohio. More than 2,000 interviews were completed in 25 states. Further details of data collection methodology are available from NCHS.

The cooperation rate was 68.8 percent. The national weighted response rate, which includes the cooperation rate as well as the resolution rate (the proportion of telephone numbers identified as residential or nonresidential and the screening completion rate (the proportion of households successfully screened for children), was 55.3 percent. Overall response rates ranged from 49.4 percent in New Jersey to 64.4 percent in South Dakota.

In order to produce the population-based estimates at States level, the data records for each interview were assigned a sampling weight. These weights are based on the probability of selection of each household telephone number within each State, with adjustments that compensate for households that have multiple telephone numbers, for households without telephones, and for nonresponse. The weights were also adjusted by age, sex, race, ethnicity, household size, and educational attainment of the most educated household member to provide a dataset that was more representative of each State's

population of non-institutionalized children less than 18 years of age. States-level data were obtained by accounting for the weights and the complex survey design. Responses of "don't know" and "refuse to answer" were counted as missing data.

2.1. Indicators of Children's Health Status

State-level data on children's health and well-being are derived from the NSCH. The NSCH has responses to physical and mental health related questions. Our measures of children's health status and well-being are the self-reported levels of: *overall child health status* (percentage of children in excellent or very good health); *current health problems* (percentage of children who have current health conditions described as moderate to severe); *impact of asthma on the family* (percentage of children whose asthma has great or medium impact on the family); *impact of asthma* (percentage of children affected by asthma); *injury* (percentage of children aged 0-5 with injuries requiring medical attention in the past year); *parent's concerns* (percentage of children aged 0-5 whose parents have least one concern about their children's learning, development, or behavior); *Socio-emotional difficulties* (percentage of children aged 3-17 with moderate or severe difficulties in the area of emotions, concentrations, behavior, or getting along with others); and *missed school days* (percentage of children who missed 11 or more days of school in the past year). These eight indicators are components of our composite measure of children's health status index, and are subjects of empirical explorations. First, we examine the determinants of the individual health status indicators. Then, secondly, determinants of a composite health status index of children are examined.

2.2 Determinants of Children's Health and Well-being

Socioeconomic Status:

There is a vast literature documenting the relationship between socioeconomic status and health (see Michael Marmot and Richard G. Wilkinson, 1999, for a review). Indicators of socioeconomic status include per capita state income, educational attainment, family size, and income inequality. We include income inequality as a determinant of children's health and well-being because research linking income inequality to population health within and among industrialized nations has captured the interest of social epidemiologists from diverse disciplines. The central claim of these past studies is that the level of income inequality in a nation, state, or community is linked in a causal way to the health of the population; specifically, as income inequality increases, health declines.

Health Care:

To capture effects of health care on children's health, the relevant health care factors are: current health insurance (percent of children currently insured); coverage consistency (percent children lacking consistent insurance coverage in the past year); preventive health care (percent of children with a preventive medical visit in the past year); preventive health and dental care (percent of children with a preventive medical visit and a preventive dental visit in the past year); mental health care (percent of children with chronic emotional, developmental, or behavioral problems who received mental health care in the past year); and medical home (percent of children who have a personal

doctor or nurse and receive care that is accessible, comprehensive, and culturally sensitive, and coordinated).

The Child's School and Activities:

A child's health (in particular mental health) is also determined by her/his activities in and outside of home. Such activities include: early childhood school (percent of children aged 3-5 who attend nursery school, preschool, or kindergarten); activities outside of school (percent of children aged 6-17 who participate in activities outside of school); repetition of grade (percent of children aged 6-17 who have repeated at least one grade); and staying at home alone (percent of children aged 6-11 who have been home alone in the past week).

The Child's Family Characteristics and Behaviors:

It includes reading to young children (percent of children aged 0-5 who are read to every day), household smoking (percent of children who live in households where someone smokes), religious services (percent of children who attend religious services at least weakly), and mother's health (percent of children whose mother's physical and emotional health is excellent or very good).

The Child and Family's Neighborhood:

Research on the contribution of neighborhood characteristics to individual health has progressed rapidly over the last decade. Mounting empirical evidence of neighborhood socioeconomic structure effects on a rage of health outcome including

mortality (Haan, Kaplan, and Camacho 1987), heart disease (LeClere, Rogers, and Peters 1998), number of chronic conditions (Robert 1998), and self-reported health (Malmstrom, Sundquist, and Johansson 1999) has fueled calls for continued research on the health effects of multiple dimensions of socioeconomic status and the mechanisms that may account for the community structure-health link (Robert 1999). Despite these efforts, neighborhood effects research on health has typically focused on only one dimension of neighborhood structure-the prevalence of economic deprivation-and has yet to explore competing hypotheses regarding the community level mediators of structural effects of health (Browning, and Cagney 2003).

We draw on social disorganization and collective efficacy theory (Shaw and McKay 1969) and Wilson's theory of neighborhood decline (Wilson 1987;1996), and extend the typical focus on the health consequences of neighborhood poverty to include a range of other structural characteristics of neighborhoods including supportive neighborhood (percent of children living in neighborhoods that are supportive), safety of child in the neighborhood (percent of children living in neighborhoods that are usually or always safe), and issues with child care (percent of children aged 0-5 whose parents had to make different child care arrangements in the past month and/or a job change for child care reasons in the past year).

2.3 Empirical Model

Our empirical model is motivated by a health production function, which is a static analogue to Grossman (1972). In this setting, the health of a child who lives in state j is represented by H_j, where H_j is an indicator of children's health and well-being (as

12

described in section 2.2). Our basic empirical model of children's health can be represented by the following estimation equations:

$$H_{ij} = \alpha_{i0} + \beta_i * S_j + \delta_i * M_j + \phi_i * SA_j + \varphi_i * CF_j + \gamma_i * NC_j + \eta_i * E_j + \varepsilon_{ij},$$

$i = 1, 2, ..., 8; j = 1, 2, ..., 50$ where H_{ij} is the health status indicator i in state j; S_j is a vector of socioeconomic status variables; M_j is a vector of health care variables; SA_j is a vector of child's school and activities variables; CF_j is a vector of child's family characteristics and behaviors; NC_j is a vector of neighborhood characteristics, E_j is a vector of state-specific factors such as race composition and/or sub-regional dummies; and ε_{ij} is the stochastic disturbance term.

In this specification, the coefficients on socioeconomic status are interpreted as health returns on socioeconomic status. In similar fashion, this paper interprets the coefficients on neighborhood characteristics to be the health return on neighborhood social capital. We note that several biases may be present in this analysis. The ability to interpret estimated coefficients as unbiased estimates depends on the assumption that stochastic error term is uncorrelated with the right hand side variables. This assumption may be violated if there are unobserved factors which influence (or are correlated with) children's health, and which are also correlated with our right hand side variables. If there are such unobserved factors, the estimated coefficients will be biased. We take steps to address this problem by including a wide range of control variables in our specifications.

3. Preliminary Results

This paper investigates determinants of children's health and well-being in the United States, using aggregated data for the 50 U.S. states, derived from the National Survey of Children's Health. Using insights from diverse disciplines such as economics, pediatrics, psychology, and sociology, we examine the effects of income, income distribution, and participation in the religious services, maternal health, breastfeeding, household smoking, neighborhood characteristics, and racial/ethnic composition of states' population. The underlying conceptual model behind estimation of determinants of child health is an integration of biomedical approach with a model of the family (Becker, 1981). In this framework, we estimate reduced form child health functions.

We find that independent effects of income inequality on children's health and well-being vary across domains of child health outcome. If we are concerned with physical and social performances of children, income inequality does not have an independent effect, and its effect on child health is largely explained by the racial/ethnic composition of the population. But if our concern is with the emotional well-being (mental health), income inequality has an independent, strong, statistically significant effect. The states with higher income inequality have higher levels of socio-emotional difficulties. In other words, income inequality is not an independent predictor of children's physical health, but it is an independent predictor of children's mental health and emotional well-being. This finding is consistent with `income inequality hypothesis'. We contest Sturm and Gresenz (2002)'s result of no relationship between income inequality and the mental health of population. We argue that their result of no statistically significant relationship between mental health and income inequality is true

14

only for adults, but not for the relationship between children's mental health and income inequality. Contrary to their claim, the statistical association between emotional well-being of children and income inequality does not disappear even after controlling for neighborhood characteristics, maternal health, income level, religious participation by children, access to mental health care, and the racial/ethnic composition of population.

Drawing on collective efficacy theory and Wilson's theory of neighborhood decline, we investigate the ways in which neighborhood contexts affect child health and well-being in the United States. The collective efficacy is operationalized through using measures of social cohesion and informal social controls. They are captured by indicators of supportive neighborhood, safety of child in the neighborhood, and issues with child care. The results show that neighborhood characteristics have significant effects on child health and well-being in the United States. Although, their effects vary across domains of child health outcomes. Most importantly, wherever, both income and neighborhood characteristics are statistically significant factors of child health, the effect of neighborhood is greater than income. This suggests that past economic studies that examined the determinants of child health but ignored neighborhood characteristics, may have overestimated the effects of socioeconomic status.

The pediatric and psychiatric research has shown a positive association between parental health and child health. However, the methodology of most of these studies is inadequate because conclusions are drawn from simple cross tabulations. They do not control for other important factors which may be correlated with parental health, such as income, thereby imputing too much to parental health. Also studies which do use multivariate regression, including Case et al. (2002) often are unsatisfactory. Their

15

estimates are biased because of important omitted variables problems. Moreover, not all health outcomes of children are equally affected by maternal health. For example, the role and importance of maternal health in child health may vary across domains of child health outcomes, as some aspect of child health are more responsive to maternal health than others. In this paper, we examine the contribution of maternal health to child health and consider four child health outcomes. There are three key findings. First, there are `large' effects of maternal health on child health. Second, effects of maternal health on child health vary across domains of child health. Third, the inclusion of control for maternal health eliminates the statistical significance of the coefficients of per capita state family income. This provides supportive evidence for the observation made by Case et al. (2002) that maternal health may be a proxy for permanent income or long-run income.

The role of proactive influences in the lives of children is increasingly of interests to clinicians and the general community. Family and cultural norms and activities are gaining acceptance as critical influences in the development of competent and resilient youth. Despite the recognition that family routines and values are crucial to children's development, past studies rarely addressed the contribution of children's or parental religious activities to children's health and social competence. There have been some efforts in the field of psychiatric research and it has been found that parental religious activities have protective influence on child health and well-being (Varon and Riley, 1999). This paper also examines the potentially protective influence of religious participation on child health. However, our study differs from the study by Varon and Riley in two respects: first, we examine the relationship between mental health of child and religious participation of children aged 3-17 instead of only adolescents; and (2)

while examining this relationship, we specifically investigate the role of religious participation by children instead of maternal religious participation. Our results show that children's religious participation in a state has a strong protective influence on their socio-emotional well-being. In other words, a one percent increase in the percent of children who attend religious services at least weekly, is associated with 5.4 percent decrease in the percent of children aged 3-17 with moderate or severe difficulties in the area of emotions, concentration, or getting along with others. Most importantly, even after controlling for various socio-economic-demographic and mental health care variables, the beneficial effect children's participation in religious activities on their emotional well-being still remains strong and statistically significant.

The beneficial effects of breastfeeding on child health have been widely established. However, to the best knowledge of authors, there is no study that has documented the beneficial effects of breastfeeding using aggregated data for the entire United States. Thus, this paper tests the validity of past findings using aggregated data for the 50 U.S. states. Regarding this, we have two key findings. First, there is large beneficial effect of breastfeeding on children's learning, development, or behavior. It also has positive influence on the overall health status of children. That is the states with higher percent of children who were ever breastfed, have lower percent of children with problems of learning, development, or behavior; and have higher percent of children who are in excellent or very health overall health.

There are numerous medical studies that have documented adverse effects from exposure of children to environmental tobacco smoke. However, the methodology of most of the medical and public health studies is inadequate because conclusions are

drawn from simple cross tabulations. They do not control for other important factors which may be highly correlated with parental or maternal smoking, such as parental health, neighborhood characteristics, thereby overestimating effect of parental smoking on child health. In this paper, following past studies we examine the effect of parental or household smoking on childhood asthma, and test the robustness of its effect to inclusion of controls for maternal health and neighborhood characteristics. We find that not only the effect of household smoking on childhood asthma is significant and robust to controls, but magnitudes of effects remain more or less the same across alternative specifications of regression model. Thus, consistent with the medical and public health literature, we find conclusive evidence supporting the link between parental smoking and childhood asthma.

In sum, child health is determined by diverse factors such as socioeconomic status, distribution of income, household behavior, neighborhood characteristics, maternal health, religious participation, and their complex interactions. Our results clearly demonstrated that the relative role of various constituent factors vary across domains of child health. In other words, some aspects of child health are more responsive to immediate family and neighborhood environment, while others are not.

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Table 1. Basic Statistics

Data	N	Mean	Std Dev	Minimum	Maximum
Mothers Health	95650	2.046	1.003	1	7
Religious studies	102310	2.035	1.268	0	7
Safety of neighborhood	101489	3.387	0.773	1	7
Household smoking	89076	0.3057	0.4798	0	7
Child currently insured	102353	0.9136	0.3431	0	7
Supportive neighborhood	101570	1.8376	1.0151	1	7
**Parents Concern	33315	0.0662	0.311	0	7
**Socio Emotional Difficulties	102353	0.0798	0.406	0	7
**Affected by Asthma	102353	1.520	0.792	1	7
**Overall Child Health Status	102353	0.132	0.424	0	7

** Indicates item is a dependent variable. Unmarked items are independent variables in this study.

Table 2

Parents concern	(Parents Concerned About their Childs Learning Development) (S6Q08)					
	Question Var	1	2	3	4	5
Intercept		0.0213 (1.46)	** 0.0870 (6036)	0.0172 (1.22)	* -0.0249 (-2.70)	** 0.0513 (4.06)
Mothers Health	(S9Q08)	** 0.0301 (12.68)	NA	** 0.0301 (12.68)	** 0.0331 (14.18)	** 0.0295 (12.45)
Religious studies	(S8Q02R)	-0.002 (-1.16)	-0.0019 (-1.17)	NA	-0.0023 (-1.41)	-0.0019 (-1.14)
Safety of neighborhood	(S10Q06)	** -0.0159 (-5.76)	** -0.1952 (-7.10)	** -0.1583 (-5.75)	NA	** -0.0159 (-5.76)
Household smoking	(S9Q11B)	* 0.0127 (2.64)	** 0.02184 (4.59)	* 0.0135 (2.84)	* 0.0129 (2.69)	* 0.0128 (2.67)
Child currently insured	(S3Q01)	** 0.0301 (4.15)	** 0.0245 (3.37)	** 0.0301 (2.84)	** 0.0292 (4.02)	NA
Supportive neighborhood	(S10Q01)	* 0.0063 (2.90)	** 0.0098 (4.57)	* 0.0064 (2.99)	NA	* 0.006 (2.77)
R Square		0.0146	0.0066	0.0145	0.0121	0.137

Values in ( ) are T-statistics

* Significant with a 90% confidence level.

** Significant with a 95% confidence level.

NA indicates that data was omitted from the trial.

-Data taken from Center for Disease Controls National Survey of Children's Health, 2003.

Table 3

Asthma		(Percent of Children Affected by Asthma) (S2Q19)				
	Question Var	1	2	3	4	5
Intercept		**0.0204 (2.04)	**0.0949 (10.11)	**0.02513 (2.61)	**0.0195 (3.24)	**0.0643 (7.09)
Mothers Health	(S9Q08)	**0.0311 (20.77)	NA	**0.0311 (20.77)	**0.0335 (22.81)	**0.0303 (20.24)
Religious studies	(S8Q02R)	0.00199 (1.68)	0.00198 (1.67)	NA	0.00134 (1.14)	0.002 (1.72)
Safety of neighborhood	(S10Q06)	*-0.00522 (-2.63)	**-0.01007 (-5.10)	*-0.0053 (-2.65)	NA	*-0.0051 (-2.53)
Household smoking	(S9Q11B)	**0.01277 (4.09)	**0.0228 (7.39)	**0.0121 (3.91)	**0.0137 (4.40)	**0.0126 (4.05)
Child currently insured	(S3Q01)	**0.0453 (10.31)	**0.0404 (9.19)	**0.0453 (10.31)	**0.044 (10.03)	NA
Supportive neighborhood	(S10Q01)	**0.0107 (7.04)	**0.01496 (9.89)	**0.0105 (6.93)	NA	**0.01026 (6.73)
R Squared		0.0155	0.008	0.0151	0.0138	0.015

Values in ( ) are T-statistics

* Significant with a 90% confidence level.

** Significant with a 95% confidence level.

NA indicates that data was omitted from the trial.

-Data taken from Center for Disease Controls National Survey of Children's Health, 2003.

Table 4

Socio Emotional Difficulties	Percent of Children aged 3-17 with moderate or severe difficulties in the area of emotions, concentration, behavior, or getting along with others) (S2Q16)				
	Question Var	1	2	3	4	5
Intercept		**0.00263 (0.27)	**0.089 (9.92)	**-0.01364 (-1.48)	**-0.01781 (-3.10)	**0.0281 (3.24)
Mothers Health	**(S9Q08)**	**0.0361 (25.24)	NA	**0.0361 (25.24)	**0.03956 (28.23)	**0.03561 (24.94)
Religious studies	**(S8Q02R)**	**-0.00683 (-6.06)	**-0.0068 (-6.04)	NA	**-0.00763 (-6.78)	**-0.00681 (-6.03)
Safety of neighborhood	**(S10Q06)**	**-0.0117 (-6.18)	**-0.01733 (-9.18)	**-0.0116 (-6.13)	NA	**-0.01558 (-6.12)
Household smoking	**(S9Q11B)**	**0.03302 (11.08)	**0.0447 (15.13)	**0.03535 (11.97)	**0.0341 (11.45)	**0.03294 (11.06)
Child currently insured	**(S3Q01)**	**0.0262 (6.25)	**0.02054 (4.89)	**0.0261 (6.22)	**0.0245 (5.84)	NA
Supportive neighborhood	**(S10Q01)**	**0.0129 (8.89)	**0.01785 (12.34)	**0.01357 (9.36)	NA	**0.01266 (8.71)
R Squared		0.0087	0.0035	0.0086	0.0079	0.0074

Values in ( ) are T-statistics

* Significant with a 90% confidence level.

** Significant with a 95% confidence level.

NA indicates that data was omitted from the trial.

-Data taken from Center for Disease Controls National Survey of Children's Health, 2003

Table 5

Overall Child Health Status		(Percent of Children in excellent or Very Good Health) (S2Q01)				
	Question Var	1	2	3	4	5
Intercept		**1.2378 (70.34)	**1.8183 (105.39)	**1.2435 (73.63)	**1.0832 (102.1)	**1.1347 (71.17)
Mothers Health	(S9Q08)	**0.2424 (92.24)	NA	**0.2424 (92.24)	**0.2588 (99.95)	**0.2444 (93.00)
Religious studies	(S8Q02R)	0.0024 (1.17)	0.00237 (1.09)	NA	-0.0008 (-0.42)	0.00232 (1.12)
Safety of neighborhood	(S10Q06)	**-0.0673 (-19.34)	**-0.01051 (-28.97)	**-0.0674 (-19.35)	NA	**-0.0678 (-19.46)
Household smoking	(S9Q11B)	*0.0163 (2.98)	**0.0947 (16.67)	*0.0155 (2.85)	*0.02046 (3.72)	*0.01665 (3.04)
Child currently insured	(S3Q01)	**-0.1061 (-13.77)	**-0.144 (-17.82)	**-0.106 (-13.77)	**-0.1137 (-14.67)	NA
Supportive neighborhood	(S10Q01)	**0.052 (19.46)	**0.0851 (30.59)	**0.0518 (19.42)	NA	**0.05311 (19.85)
R Squared		0.1255	0.0362	0.1255	0.1154	0.1235

Values in ( ) are T-statistics

* Significant with a 90% confidence level.

** Significant with a 95% confidence level.

NA indicates that data was omitted from the trial.

-Data taken from Center for Disease Controls National Survey of Children's Health, 2003.