

# How school quality affects the success of a conditional cash transfer program

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The achievement gap between children of families in the highest and lowest income groups in the United States has been widening steadily in recent years.<sup>1</sup> There are two primary theories explaining the link between socioeconomic status and children's achievement. One theory suggests that economic hardship leads to parental stress, which in turn affects parental mental health, family interactions, and ultimately children's achievement.<sup>2</sup> An alternate model suggests that limited economic resources restrict parents' ability to invest in children, and thus hinders children's educational attainment.<sup>3</sup> Recent studies suggest that in addition to families, school settings play a key role in the widening achievement gap as children progress through school.<sup>4</sup>

Conditional cash transfer programs offer cash assistance to low-income families to reduce immediate hardship, but condition this assistance on actions such as investing in children's educational achievement and family preventive health care, in the hope of improving children's longer-term success. Inspired by Mexico's Oportunidades program, conditional cash transfer programs have become a very popular antipoverty initiative in lower- and middle-income countries over the past decade. Evaluations of these programs have found some important successes in reducing poverty and increasing investments in children.<sup>5</sup> Opportunity NYC – Family Rewards is the first comprehensive conditional cash transfer program to be implemented and evaluated in a higher-income country.<sup>6</sup>

This article summarizes a study that looked at whether and how school quality affected Family Rewards program effects on high school students' educational processes and achievement.<sup>7</sup> This is the first study to consider the role of school context in examining the results of a conditional cash transfer program on educational outcomes, and uses an expanded set of outcomes that include children's approaches to schooling, parental investment in their children, and academic achievement.

## Conditional cash transfer programs

Over the past decade, conditional cash transfer programs have been widely adopted in lower- and middle-income countries. Nearly every Latin American country has such a program, and pilot programs are being implemented in countries around the world, including locations in Sub-Saharan Africa, South Asia, and most recently, North America. There has been relatively consistent evidence that these programs successfully achieve their short-term goals of increasing income, reducing current poverty levels, and increasing those parental investments in children that are directly tied to program incentives.<sup>8</sup> There is much less evidence, however, that conditional cash transfer programs improve longer-term education and health outcomes for children.

This lack of consistent long-term effects could be due to: (1) programs having unrecognized design flaws, such as targeting incentives to less important areas of human capital development, not providing large enough incentives, or not framing incentives in ways that would actually change behavior; (2) offsetting negative consequences of the programs; or (3) variation in program effects by individual or contextual characteristics that masks overall effects. This third possibility, that the program promotes positive changes under some conditions, but negative changes under other conditions, is examined in the study described here.

## Opportunity NYC – Family Rewards

The Family Rewards program, launched in 2007 by New York City's Center for Economic Opportunity, offered families rewards linked to conditions in three areas:

- **Education**, which included meeting goals for children's attendance in school, achievement on standardized tests, and parents' engagement with their children's education;
- **Health**, which included maintaining health insurance coverage for parents and their children, and obtaining age-appropriate preventive care; and
- **Workforce**, which included parents sustaining full-time work and completing education or training activities.

A complete schedule of awards is shown in Table 1. The program was offered to low-income families in six of New York City's poorest communities. For high school students, some of the cash rewards for meeting educational goals were offered directly to them rather than to their parents, giving them more direct exposure to the program

**Table 1**  
**Family Rewards Demonstration: Schedule of Rewards**

Activity	Reward Amount
<b>Education Incentives</b>	
Elementary and middle school students	
Attends 95% of scheduled school days <sup>a</sup>	\$25/month
Scores at proficiency level (or improves) on annual math and English tests	
Elementary school students	\$300/month per test
Middle school students	\$350/month per test
Parent reviews interim test results with teachers <sup>b</sup>	\$25 (up to 2 tests/year)
High school students	
Attends 95% of scheduled school days	\$50/month
Accumulates 11 course credits per year	\$600
Passes state Regents exams	\$600/exam (up to 5 exams)
Takes PSAT (preliminary college aptitude test)	\$50 (up to 2 times)
Graduates from high school	\$400 bonus
All grades	
Parent attends parent-teacher conferences	\$25/conference (up to twice)
Child obtains library card <sup>a</sup>	\$50 (once during program)
<b>Health Incentives</b>	
Maintaining health insurance (public or private <sup>a</sup> )	
For each parent covered	\$20/month (public); \$50/month (private)
If all children are covered	\$20/month (public); \$50/month (private)
Annual medical checkup	\$200/family member (once/year)
Early-intervention evaluation for child under 30 months old, if advised by pediatrician	\$200/child (once/year)
Preventive dental care (cleaning/checkup)	\$100/family member (twice/year; once/year for children under age 6)
<b>Workforce Incentives</b>	
Sustained full-time employment	\$150/month
Education and training while employed >10 hours/week (employment requirement discontinued after Year 2)	Amount varies, up to a maximum \$3,000 over 3 years
<sup>a</sup> Discontinued after Year 2.	
<sup>b</sup> Discontinued after Year 1.	

than younger children. Interim results of an evaluation of Family Rewards, based on three to four years of data, found reductions in immediate poverty and material hardship, and some improvements in some forms of investment in human capital.<sup>9</sup> To date, Family Rewards has had little overall effect on academic outcomes for high school students who were behind academically at the time of program entry. However, for students who were already academically proficient when they entered the program in ninth grade, the program did significantly increase various educational outcomes, including attendance, courses passed, and graduation rates.

The incentive structure for Family Rewards differs somewhat from earlier conditional cash transfer programs. In Latin America and Asia, programs have traditionally provided incentives for attainable outcomes such as school enrollment and health-care visits. In Family Rewards, however, many of the incentives were tied to outcomes such as academic attainment and sustaining full-time employment. Unlike earlier programs, these merit-based incentives were not necessarily achievable for all parents and children. While Family Rewards targeted families and not schools, school quality may have affected the way that parents and children responded to incentives.

### The current study

We looked at whether school quality moderated the effects of Family Rewards on educational behaviors and

attitudes, including children’s academic motivation, school engagement, academic time use, and academic achievement, and parental financial investments in children. While subgroup analyses usually consider how programs work differently for different groups of people, in this study we consider whether and how Family Rewards worked differently for children in school settings of different quality.<sup>10</sup>

School quality was assessed using a composite of four dimensions of the school environment, including (1) the percentage of students who passed English and math Regents examinations; (2) average attendance rate; (3) per-pupil expenditure levels; and (4) student reports of perceptions of school safety. Table 2 shows selected characteristics of schools by school quality rank, and for all New York City public schools. Note that the quality levels for even higher-quality schools are not particularly high. For example, the graduation rate for the top third of schools is only 71 percent. This compares to a graduation rate of 59 percent across all New York City Public Schools, and 51 percent for the bottom third of schools.

### Academic motivations and time use

The level of students’ academic motivation was assessed using a questionnaire that included measures of both intrinsic and extrinsic motivation. The intrinsic motivation scale included items such as “I do homework because I enjoy it,” and “I do homework because I want to understand the

Table 2  
Selected Characteristics of Schools by Quality Ranking

High Schools (N = 330)	Bottom Third	Middle Third	Top Third	All New York City Public Schools
Graduation rate	51%	61%	71%	59%
Percentage passing Regents exams	72%	79%	82%	79%
Attendance rate	75%	82%	86%	85%
Average student enrollment	805	788	1,072	796
School progress report score (0 to 100 scale)	40	47	61	54

subject,” while the extrinsic motivation scale included items such as “I do homework because I will get in trouble if I don’t do it,” or “I do homework because I will feel bad about myself if I don’t.” Students rated each item on a four-point scale ranging from 1 (not at all true) to 4 (very true).

Students also reported how they spent their discretionary time, and were categorized into one of four groups based on their reported activities:

- **Maintenance and work-oriented**, which included those who engaged in high levels of activities such as self-care, resting, and commuting, and the highest levels of family chores such as housework and caring for siblings;

- **Academically oriented**, which included those who spent most of their discretionary time doing homework or other academic activities;
- **Television- and computer-oriented**, which included those who spent most of their time watching television or using the computer for non-academic purposes; and
- **Socially oriented**, which included those who spent the most time in activities such as hanging out with friends and family, having telephone conversations, or texting.

We found that the effects of Family Rewards on both student’s academic motivations and time use varied by school quality. Figure 1 shows the relationship between school quality, treatment status, and intrinsic motivation. The difference between the two lines represents the treatment effect; when the line for the treatment group is above that of the control group, the offer of conditional cash transfers has a positive effect. In contrast, when the line for the treatment group is below that of the control group, the effect is negative. Similar results are seen for extrinsic motivation. Thus, students in lower-quality schools became more motivated—both intrinsically and extrinsically—as a result of Family Rewards, while those in relatively higher-quality schools became less intrinsically motivated. Although previous work has found a potentially reciprocal relationship between academic motivations and how engaged students are in school, there were no effects of Family Rewards on self-reported school engagement.<sup>11</sup> However, as shown in

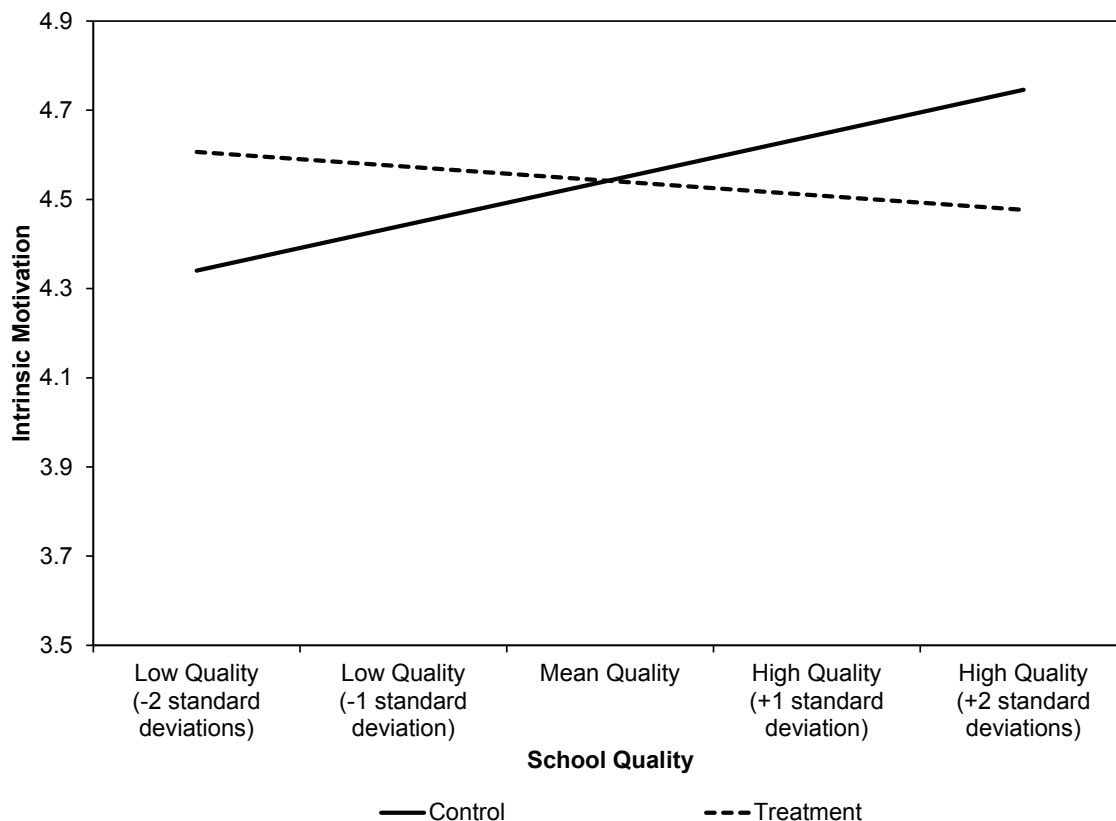
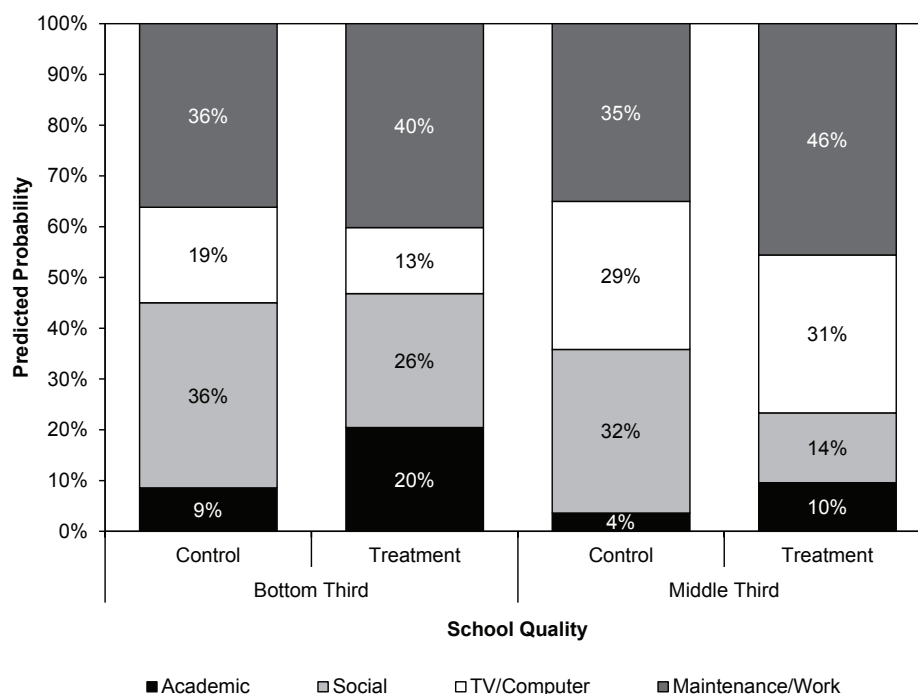


Figure 1. Effects on motivation to learn by school quality.

Note: Estimates are regression-adjusted using ordinary least squares regression models, controlling for pre-random assignment characteristics of children and families.



**Figure 2. Effects on time use by school quality.**

**Notes:** Estimates are regression-adjusted using multinomial logistic regression models, controlling for pre-random assignment characteristics of children and families.

<sup>a</sup>Difference in the proportion of children in the TV/computer group compared to the academic group is significant at  $p < .05$ .

<sup>b</sup>Difference in the proportion of children in the social compared to academic group is significant at  $p < .05$ .

<sup>c</sup>Difference in the proportion of children in the social compared to academic group is significant at  $p < .001$ .

Figure 2, children in lower- and medium-quality schools (but not higher-quality schools) did change the way they spent their time, in favor of academic activities, as a result of Family Rewards.

### Academic performance

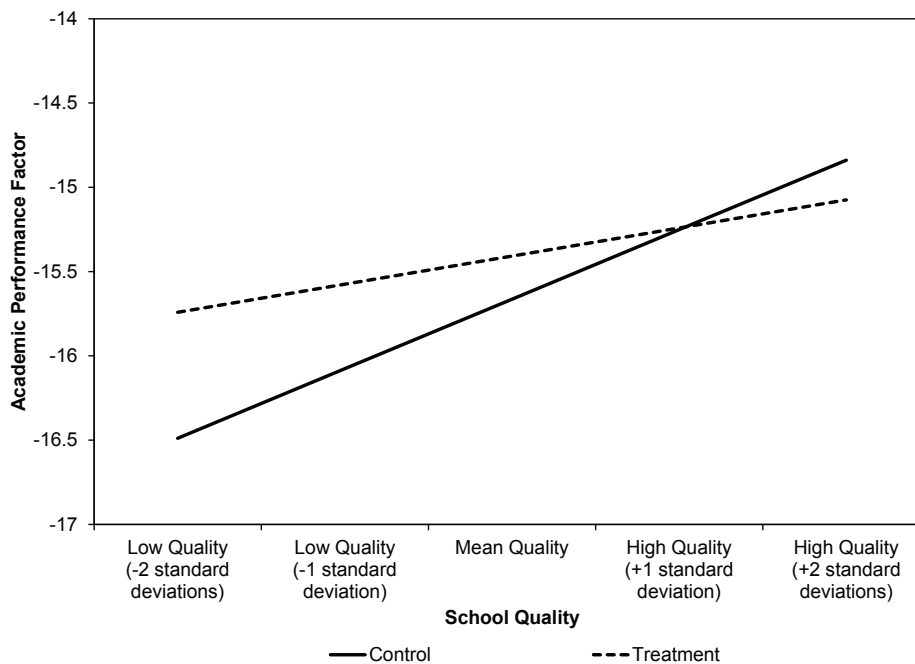
For the full sample, there were no detectable effects of Family Rewards on academic performance. However, academic performance effects were also found to vary with school quality. Variations in the effects of Family Rewards were found for academic performance measures including attendance, course credits passed, grade retention, and passing state standardized exams. The largest positive effects on academic performance were found in lower-quality schools. As shown in Figure 3, this effect became smaller as school quality increased, with no effect found on academic performance in higher-quality schools. Differences in observed effects were statistically significant for comparisons at the lowest-quality schools (two standard deviations below the mean), and marginally statistically significant in low-quality schools (one standard deviation below the mean). These findings suggests that having an effect on key mediating processes thought to affect academic outcomes (such as spending more time on academic activities) may indeed translate into improved academic performance. However, a definitive test of this interpretation is beyond the scope of the study.

### Parental investment

We found no difference in effects by school quality on the way parents allocated their financial resources on behalf of their children. For the full sample of families, parents receiving Family Rewards increased their spending on daily expenses for their children, including money spent on school, leisure and entertainment, and health care. Parents in the treatment group also increased the rate at which they saved for their children’s future education. These increases were the same regardless of school quality.

### Sensitivity analysis

The randomized design of the experimental evaluation provides unbiased parameter estimates of how the effects of Family Rewards varied by school quality. It is plausible, however, that individual characteristics led some people to respond to the intervention differently than others. In other words, families offered the program may have differed in the extent to which they were “ready” to take up the reward offers, and these families may have been distributed differentially across schools. Thus, it could be these individual-level characteristics driving the differences in program effects observed at the school-level (as opposed to something about the schools themselves). A sensitivity analysis was conducted to assess whether the observed moderating effects were in fact attributable to school quality, or if they were attributable to differences in observed child



**Figure 3. Effects on academic performance by school quality.**

**Notes:** Estimates are regression-adjusted using ordinary least squares regression models, controlling for pre-random assignment characteristics of children and families. The relationship shown is only marginally significant at  $p < .07$ .

and family characteristics that affect program take-up and are unevenly distributed across schools. Overall, we found that our results were robust to different specifications.

### Implications

These findings lead us to hypothesize why academic processes and outcomes were positively affected only for children in lower-quality high schools. For children in a lower-quality school environment, where achievement was likely not the norm, the presence of such incentives may have provided a signal of the perceived value of school. Future programs may consider framing incentives in a way that explicitly promotes the value of education in schools of all quality. For example, incentives can be framed as an opportunity to earn and save money for college rather than simply a reward for high achievement.

These findings have several implications for future conditional cash transfer programs and educational cash incentive programs in general. First, Family Rewards was the first comprehensive conditional cash transfer program in the United States. Because of the very short time line to launch the program, there was no pilot testing of incentives, and thus this program should be viewed as a foundation upon which future programs can build. Replication of these findings in additional locations is necessary to be able to make broader conclusions about conditional cash transfer programs. Updated versions of Family Rewards are currently underway in New York City and in Memphis. Second, future programs should consider the educational context in which they are

implemented, and may consider framing of incentives differently based on school quality, in order to promote better internalization of the behaviors for which incentives are offered. Some evidence indicates that framing incentives as a pathway to improving future educational and professional prospects may promote school engagement.<sup>12</sup> Finally, given the relationship between effects on key academic mediating processes and academic performance, future programs may consider targeting incentives specifically to change these mediating processes and behaviors. This could include, for example, incentives tied to spending time on academic activities, such as attendance at a tutoring program. Effects on academic performance may be stronger as a result. Other educational incentive programs have found positive effects on academic outcomes when incentives are attached to educational “inputs” such as reading a book, compared to incentives for educational “outputs” such as test scores.<sup>13</sup> Obtaining stronger effects on such potential mediating processes, and on the outcomes being targeted, would allow for a formal test of causal mediation.<sup>14</sup>

### Limitations

This study has several important limitations. First, these results are not generalizable beyond high school-aged, African American and Latino urban children, or beyond a relatively lower-quality spectrum of schools. Second, the academic outcomes are limited and include only administrative records on attendance, credits passed, grade advancement, and New York State Regents exams. More detailed information such as teacher reports of children’s

behavior in class, or semester grades, would provide a more comprehensive understanding of school performance and achievement. Third, the range of school quality in the sample was relatively restricted, with schools ranked in the top third in terms of quality having a graduation rate of only 71 percent, and only 56 percent and 63 percent of students achieving proficiency on the state English and math exams, respectively. It is thus not possible to know how Family Rewards would operate at schools beyond this limited range. Finally, as noted above, because Family Rewards was a demonstration project, replication of these findings in future evaluations is necessary to be able to make broader conclusions about conditional cash transfer programs in the United States.

## Conclusions

One major challenge of program and policy research is to shed light on the processes behind key outcomes, so that programs and policies can address these processes effectively. The findings from this study may position future conditional cash transfer programs to better design incentives that effectively target changes to children's approaches to school as a way to improve academic achievement. These results also bring to light the role of the school context in how incentives affect children, and suggest that incentives should be framed differently depending on the educational context in which they are administered. They provide real world evidence on how a comprehensive set of incentives operate to affect motivation and add to the rich body of literature from lab research on motivation. A fuller understanding of the underlying processes affected by conditional cash transfers is crucial for programs to be effective in ultimately closing the income achievement gap. If adapted successfully to the United States, conditional cash transfer programs may offer a promising new approach to breaking the cycle of intergenerational poverty and restoring equity to low-income families and children to ensure a better life for all citizens. ■

the Opportunity NYC—Family Rewards Demonstration,” MDRC, New York, 2013. Available online at [http://www.mdrc.org/sites/default/files/Conditional\\_Cash\\_Transfers\\_FR\\_0.pdf](http://www.mdrc.org/sites/default/files/Conditional_Cash_Transfers_FR_0.pdf)

<sup>7</sup>This article draws from S. Wolf, J. L. Aber, and P. A. Morris, “School Quality Moderates the Impacts of a Conditional Cash Transfer Program on High School Students: Evidence from an Experimental Evaluation in New York City,” working paper, 2014.

<sup>8</sup>For a summary of evaluation results, see A. Fiszbein and N. Schady, “Conditional Cash Transfers: Reducing Present and Future Poverty,” World Bank Publications, Washington, D. C., 2009.

<sup>9</sup>Riccio et al., “Conditional Cash Transfers in New York City;” J. Riccio, “New Findings on New York City’s Conditional Cash Transfer Program,” *Fast Focus* No. 18-2013, Institute for Research on Poverty, December 2013.

<sup>10</sup>The sample for this study includes 511 high-school-aged children from 330 schools in six low-income urban communities. This subset of children in the oldest cohort (in ninth grade at study entry) was selected from the larger Family Rewards evaluation; additional information for this subset was collected directly from children and their parents 30 months after randomization, in the spring of eleventh grade. There were between one and seven sample members at each of the 330 schools, with an average of 1.5 per school.

<sup>11</sup>See, for example, R. Pekrun, T. Goetz, W. Titz, and R. P. Perry, “Academic Emotions in Students’ Self-Regulated Learning and Achievement: A Program of Qualitative and Quantitative Research,” *Educational Psychologist* 37, No. 2 (2002): 91–105.

<sup>12</sup>J. E. Miller-Cribbs, S. Cronen, L. Davis, and S. D. Johnson, “An Exploratory Analysis of Factors that Foster School Engagement and Completion Among African American Students,” *Children & Schools* 24, No. 3 (2002): 159–174.

<sup>13</sup>R. G. Fryer, Jr., “Financial Incentives and Student Achievement: Evidence from Randomized Trials,” *Quarterly Journal of Economics* 126, No. 4 (2011): 1755–1798.

<sup>14</sup>L. A. Gennetian, P. A. Morris, J. M. Bos, and H. S. Bloom, “Constructing Instrumental Variables from Experimental Data to Explore How Treatments Produce Effects,” in *Learning More from Social Experiments: Evolving Analytic Approaches*, ed. H. S. Bloom (New York: Russell Sage, 2006).

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<sup>1</sup>S. F. Reardon, “The Widening Academic-Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations,” in *Whither Opportunity: Rising Inequality, Schools, and Children’s Life Chances*, eds. G. J. Duncan and R. J. Murnane (New York: Russell Sage, 2011).

<sup>2</sup>R. D. Conger and K. J. Conger, “Resilience in Midwestern Families: Selected Findings from the First Decade of a Prospective, Longitudinal Study,” *Journal of Marriage and Family* 64, No. 2 (2002): 361–373.

<sup>3</sup>G. S. Becker and N. Thomes, “Human Capital and the Rise and Fall of Families,” *Journal of Labor Economics* 4, No. 3 (1986): 1–39.

<sup>4</sup>See, for example, E. A. Hanushek, J. F. Kain, and S. G. Rivkin, “Why Public Schools Lose Teachers,” *Journal of Human Resources* 39, No. 2 (2004): 326–354.

<sup>5</sup>See, for example, T. Rosenberg, “Helping the World’s Poorest, for a Change,” *New York Times*, January 7, 2011. Retrieved October 1, 2011 from <http://opinionator.blogs.nytimes.com/2011/01/07/helping-the-worlds-poorest-for-a-change/>.

<sup>6</sup>J. Riccio, N. Dechausay, C. Miller, S. Nunez, N. Verma, and E. Yang, “Conditional Cash Transfers in New York City: The Continuing Story of