

# Relieving Financial Hardship Improves Child Welfare: Experimental Studies

L. Anthony Loman, PhD and Gary L. Siegel, PdD

Institute of Applied Research and IAR Associates  
St. Louis, Missouri

**Abstract.** This is the second IARA summary paper considering the relationship between child welfare and financial hardship of families. The first was the Six Studies summary paper, which described large scale studies conducted by the authors of this paper at the Institute of Applied Research and at the sister organization, IAR Associates. Those studies were focused on families reported for child maltreatment. Five of the six were multi-year, multi-method field experiments. Each of the studies demonstrated that relieving financial hardship and poverty improves long-term outcomes for children.<sup>1</sup> The present paper extends and broadens that discussion into areas of general child welfare, including children's health, education, and ongoing development. Part 1 describes correlational studies in three areas: food and diet, housing, and mother-only families. The problem with the correlational approach described in Part 1 is that correlation does not prove causation. Part 2 moves beyond correlation to proof of causation by focusing on experimental studies. This portion of the paper is similar to the Six Studies summary paper in that it outlines the strongest research designs demonstrating that relief of financial hardship in families with children improves the lives of the children and enhances their ongoing development.

# Part 1. How Financial Hardship is related to Child Welfare: Three Illustrative Areas

In this part, the focus is on correlational studies. The materials presented are meant to be illustrative rather than exhaustive. However, references to many other studies are provided for those who want to pursue the topics further.

## Enough Food and a Healthy Diet

In 2016, 16.5% of US households with children under age 18 were *food insecure* at some time during the year, based on a yearly USDA survey of American families. This is one of those statistics, like rates of U.S. poverty, that most Americans find hard to believe. How is this possible in a society that throws away nearly half of all produce or one-third of all food? There is was an interesting article in *The Atlantic* that year arguing that wasted food in America amounts to about 60 million tons a year costing \$160 billion.<sup>2</sup> Food insecure families most often report not having enough money in a given month to get food when it was running out, being unable to afford balanced meals, and being worried about food running out. In some cases, they reported that their children were not eating enough because the family could not afford enough food.<sup>3</sup> Not having enough money leads to reductions in food expenditures and thus in the quantity of food available. Just as importantly, inadequate food expenditures lead to poorer diets overall, including diets of children. For example, another study of food stamp (SNAP) recipients by Mabli and associates found that greater cash for food expenditures was directly related to the quality of the diet. This included increased intake of healthy foods and reduction of unhealthy foods and an increase of foods with greater nutrient density.<sup>4</sup>

The increase in food insecurity brought on by the 2020-22 COVID-19 pandemic was partially addressed through legislation specifying a 15% increase in SNAP benefits through September of that 2020. By December, a much smaller package contained \$13 billion in nutrition assistance by increasing the maximum allotments of SNAP to families. This kind of assistance should be extended permanently.

More money equals more and better food in families and for children. A better diet means better overall health and perhaps reduced obesity, a major problem of both children and adults in the US. But inadequate and unhealthy diets also affect children's learning ability and behavior.

*The causal pathways between food and child welfare are many.* For example, unbalanced diets are associated with chronic childhood illnesses and poor school achievement. Here is a good illustrative study: *Associations between Household Food Insecurity in Early Childhood and Children's Kindergarten Skills* by Anna Johnson and Anna Markowitz. The authors reference scores of earlier research reports on this topic, and of course, an extensive literature also exists produced by nutritionists supporting the relationship between balanced diets and healthy brain development.<sup>5</sup>

Johnson and Markowitz studied a recent (2001) large birth cohort of thousands of children from 96 US counties or county clusters looking at the relationship between food insecurity of children (at ages 9 months, 2 years and preschool age) and kindergarten reading and math skills, hyperactivity, conduct problems and approaches to learning. They found:

- Food insecurity in 20% of children at some time throughout their early childhood.

Notice that this is greater than 16.5% each year, cited above. It is reminiscent of substantially higher rates of child poverty *at any time* during childhood years compared to rates during only one year. Food insecurity was related to poor socio-emotional outcomes such as:

- *Hyperactivity* (e.g., how well a child pays attention, resists distraction, sits still),
- *Conduct problems* (e.g., how often a child pushes another person or throws tantrums), and
- *Approaches to learning* (e.g., how focused, independent and eager to learn).

They also found an association with *math and reading skills*, which appeared to be most strongly related to children in a category they created designated as *very-low* food security.

Depriving children of sufficient food and balanced diets results in lasting negative consequences in their lives.

## Housing

As researchers at IAR, we saw hundreds of cases of poor and substandard housing that were representative of many reports of child neglect among the thousands of families studied in several U.S. states. Readers may peruse our website ([www.iarstl.org](http://www.iarstl.org)) for scores of case examples in our studies of child welfare programs in eight US states.<sup>6</sup> Those studies demonstrate that assistance with

housing including back rent, utilities, working with landlords, repair of dilapidated homes, and so on, in the context of broader material support, can lead to reductions in later reports of child maltreatment. Here are three examples.

**Case Study 1.** A report was received on a mother-only family living in a trailer home. The reporter alleged that the trailer was unsafe. A family assessment worker was dispatched to determine whether the report was correct and what was needed. She called the mother and then went to visit her and the children at the house trailer. She observed that there were several rotten boards in the floor of the trailer. This was dangerous for the children, all of whom were preschool ages. In cases we have observed under the traditional child protection system this kind of problem sometimes led to removal of children from the home until the family corrected the problem. The mother acknowledged the problem but said she did not have enough money to fix it. She told the worker that she was handy and could fix the boards herself if only she could purchase them.

The worker returned to her office and explained the situation to her supervisor. So, the alternatives were to remove the children at a cost of hundreds of dollars in worker time, court personnel time, transportation costs, foster care home costs, etc. or fix the trailer. Fortunately, this state had the extra funds as part of the project that we were evaluating set aside for experimental families that could be legally used to remedy these kinds of situations. The worker suggested that a purchase order to the local hardware store might be provided to the mother. The supervisor agreed and it was done. The worker then returned to the home and the mother agreed to do the work. She went to the hardware store and purchased the materials she needed, returned, and replaced the rotten floorboards. Problem solved and case closed.

**Case Study 2.** A five-year-old boy was at risk of being removed from his parents who lived in a mobile home. The parents, both described as mentally challenged, had extremely limited financial resources. While the family had no prior case history, there were significant safety concerns for the child due to the uninhabitable condition of the mobile home. Part of the trailer had collapsed, and the hot water heater and commode had fallen out and into the back yard. Electric wires coming into the home ran through water beneath the trailer. Waiver funds were added to county funds to purchase construction material, a new hot water heater, windows, and a door. Through a family-team conference the grandparents became involved, taking temporary care of the boy, while members of the family's church provided volunteer labor to rehab the trailer.

**Case Study 3.** This case involved a two-parent family with an 11-year-old son and a 14-year-old daughter. The father was disabled and unable to work and the family had a history of instability and frequent moves that led to serious behavioral and emotional problems for the children. The family became homeless when they were unable to pay their rent and were forced out of their home. The children were taken into custody and placed in foster care, but the placement situations were unreliable.

Through the waiver, the family received short-term assistance to pay rent and the parents found new living arrangements that allowed the son to live with them once again. Waiver funds were also used to pay for tutoring services for the boy to help him catch up for missed time at school. A placement with relatives was secured for the daughter through waiver funds which paid for a bed and medication prescribed to address her bouts of severe anxiety. Finally, the mother was helped to find a job and the family attained a level of stability it had lacked for several years.

Various other details are included in the reports from which these cases are drawn. Many case examples are presented in our reports.<sup>7</sup> Other examples can be found in Matthew Desmond’s book: *Evicted: Poverty and Profit in the American City*.<sup>8</sup>

**Homelessness in the U.S.** Another indicator of the extent of the housing problem in the US is homelessness. This chart in **Figure 1** shows the number of individuals and families who experienced homelessness in 2019. The chart is taken from the website of the National Alliance to End Homelessness.<sup>9</sup> The total number of individuals was well over a half million. Of these most were individuals but about one in three (171,670) were individual in homeless families. An earlier report from US-HUD for 2018 indicated that 553,000 people experienced homelessness on a single night in that year and that 20% (111,592) were children.<sup>10</sup> **Figure 1** shows that about half of the individuals remained unsheltered. The number of unsheltered should be zero. Safe, clean and affordable housing can and should be easily available to each and every U.S. family.

The 2020-22 pandemic brought to light the special needs of this population. As the National Alliance website indicates: “Self-quarantine, social isolation, and stay-at-home orders are difficult, if not impossible, to follow when you do not have a home. The Alliance cites research that demonstrates

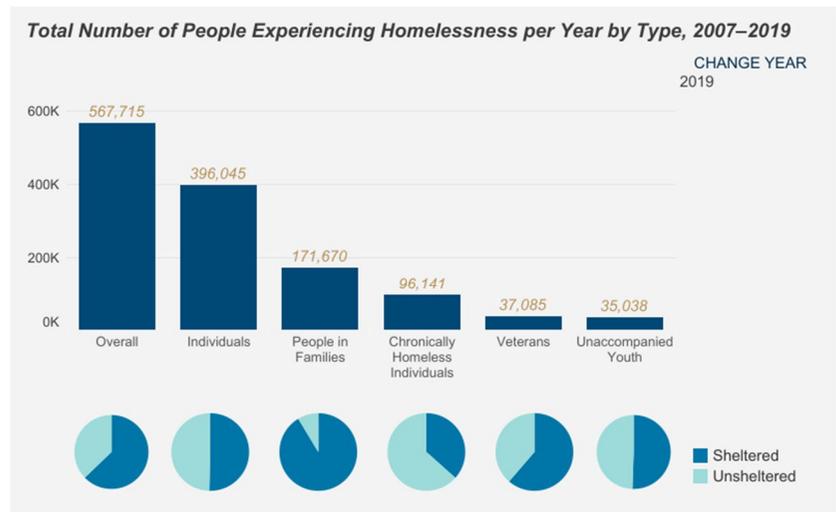


Figure 1. Homelessness in the United States in 2019

how shelters should be expanded to accommodate social distancing among the currently sheltered population and additional shelters for the unsheltered. An estimated 400,000 additional shelter units would be needed nationally.<sup>11</sup>

**Rent Assistance.** One of the reasons for evictions and homelessness is the shortage of affordable rental housing. There were 43.3 million renter households in the US in 2017. Eleven million (25.4%) of the total renter households had exceptionally low incomes. Assuming that households should not spend more than 30% of their income on housing, only 7.4 million rental homes were available and affordable to households in this category. The shortage in that year, therefore, amounted to 3.6 million homes. None of the 50 states had an adequate supply of rental housing for the lowest income renters.<sup>12</sup> One of the causes of homelessness is eviction when families are unable to pay rent.

Is inadequate housing related to the welfare of children? The following is an example study of the effects of substandard housing on children. It is a paper by Rebekah Coley and associates: *Relations between Housing Characteristics and the Well-Being of Low-Income Children and Adolescents*.<sup>13</sup> Like our previous example of inadequate food and nutrition, this study is abundantly referenced. Coley *et al.* followed a cohort of 2,437 children and adolescents from low-income urban neighborhoods in three cities over time. The advantage of this study over previous research is that it considered various housing features:

- The physical *quality of the housing* (structural, maintenance and problems such as a leaking roof, broken windows, rodents, inoperative stoves, peeling paint, exposed wiring, etc.),
- *housing type* (assisted housing, rented or owned),
- *residential instability* (whether the family had moved in the previous year), and
- *housing cost burden* (total housing cost including utilities as a proportion of total household income).

This enabled the researchers to determine which features of housing were related to various developmental outcomes of children. These included anxiety, depression, withdrawal, somatic complaints, aggression, and rule breaking behavior. Reading and math skills were also assessed. Various family characteristics were measured and utilized in the analysis along with family functioning measure including the psychological distress of mothers. They found that housing quality was most important. Children in lower quality housing showed:

- Greater emotional and behavioral problems compared to those in higher quality homes. As housing problems increased over time, emotional and behavioral problems correspondingly increased.
- Reduced cognitive (reading and math) skills. How might this occur? The authors speculate that stress may be involved. They also consider health problems, such as those resulting from exposure to lead paint, asthma and allergies. Further, conditions like lack of heat, hot water or adequate lighting could affect learning and social activities.
- Poorer psychological functioning of the mother was found to be an important intervening factor.

Another large-scale study by Dominique Goux and Eric Maurin in France considered overcrowding, *The Effect of Overcrowded Housing on Children's Performance in School*.<sup>14</sup> They found a strong association between overcrowding and academic failure. They noted that children in large families did more poorly than children in smaller families, although the reason for this was not family size itself but that overcrowding occurs more often in larger families. This is another reason why the dropout rate of children living in or near poverty is significantly higher in the US. The event dropout rate refers to the percentage of youths in grades 10 through 12 who leave high school between the beginning of one school year and the beginning of the next without earning a high school diploma or an alternative credential such as a GED (high school equivalency diploma). This rate was 7.2% and 5.3% respectively in 2016 for the lowest quarter and the middle low quarter of family incomes compared to 3.6% and 3.9% for the higher quarters.<sup>15</sup>

### Mother-Only Families

Most single-parent families are female headed, that is, mother-only. A long-term research project called the *Fragile Families and Child Wellbeing Study* has considered the plight of children in these two different family structures. A summary of research findings from this study in the late 1990's through 2009 is *Fragile Families and Child Wellbeing* by Jane Waldfogel and associates.<sup>16</sup> They demonstrated that:

- Children in mother-only families have poorer outcomes as they grow up than children in two-parent families. For our purposes here, a major factor is that mother-only families have fewer material resources.

Homes with only one adult who can work have lower incomes than those with two adults, and the wages and salaries are lower on average for women compared to men. Think of this in relation to quality of housing, crowding and poorer

psychological functioning described in the previous section. Also, besides material resources single parents have more limited time resources. Thus, a single mother who is working will have less time to spend with her children than is the case in a two-parent household. The study showed that:

- The mother's mental health, especially depression, was an intervening variable, increasing negative outcomes.

Family stability, which refers to a child growing up with the same parent, versus instability, living under two different parents, is also an issue. The research shows:

- Negative behavioral effects for children living in mother-only families versus cognitive and health problems for children in unstable family structures.

Lee Dahoon and Sara McLanahan considered transitions between different family structures and looked at differences by racial/ethnic identity.<sup>17</sup> The effects of transitions is something we have looked at for these two family structures as we studied families reported multiple times for child maltreatment.<sup>18</sup> The analysis examined cohorts of families. Some maintained the same structure over time; they remained mother-only or two adults. Other changed from mother-only to two-adult or vice versa. This analysis showed that transitions to mother-only status resulted in reduced employment, and by implication reductions in income. This transition, in turn, led to increases in child neglect reports.

## Correlation versus Experiment

These studies demonstrate that the welfare of families and children is *correlated* with financial hardship and poverty. For children, the welfare deficits include developmental problems, poorer cognitive abilities, physical and mental health issues, child safety issues and many others. This suggest that relief of family financial problems might lead to reduction of such problems.

On the other hand, *correlation does not prove causation*. Thus, it is possible to come up with other explanations especially of something as complex as family relationships and adult and parent-child interactions. One might argue, for instance, that there is a greater propensity to use drugs or to become alcoholic among poor and working-class individuals. There might be a biological (genetic or epigenetic) propensity for clinical depression in some people. Alternatively, one could try to establish that poor personality traits arise in certain people or that low intelligence is biologically determined. Or perhaps lower-class people are simply more likely to display ignorance of child development or egocentricity and lack of concern about their children? It would be possible to go on listing individual traits of parents that

might contribute to bad outcomes for children and then argue that such personality factors also cause economic hardship. The point is that correlational studies cannot resolve this issue.

However, the question can be resolved through experimental studies, as was demonstrated in the first summary paper in this series, referenced above. This is done again in the next chapter with other experimental studies that were focused on poor and working-class families generally, and in some cases programs aimed at *all families* without regard to income or wealth. Experimental studies offer solid evidence of the *causal effect of money and material resources on the development and long-term welfare of children.*

## Part 2. Field Experiments Showing that Relieving Financial Hardship Improves Child Welfare

The experimental studies in this part demonstrate the positive effects on the welfare and development of children obtained by providing regular and repeated cash to families. In some cases, the programs examined were used with families meeting certain criteria (for example, qualifying for cash welfare). Others concerned large scale public policies regarding taxes and minimum wages that brought more money into families. In still others, money was provided to families without regard to financial need or other characteristics.

Before proceeding, the work of Kerris Cooper and Kitty Stewart is noted. Their 2017 paper *Does Money Affect Children's Outcomes? An Update* is a review of 34 studies of outcomes among children, including cognitive, social-behavioral and health, when families experience changes in income.<sup>19</sup> Their study is well worth reading and was helpful in writing this chapter.

### 1. Studies of Welfare Reform

The research considered in this section took place during and after the 1996 Federal reforms of cash welfare programs for families with children. In the U.S., the Aid to Families with Dependent Children program (AFDC) was replaced in 1996 by the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). AFDC was a cash welfare program that provided modest monthly payments, primarily to mother-only families. It was a way of helping families feed, clothe and house their children, at least minimally. PRWORA reduced the cash coming into impoverished families by placing strict time limits on participation. The new payments were dubbed Temporary Assistance to Needy Families (TANF), with the emphasis on the T.

Immediately before the passage of PRWORA, states were permitted to apply for waivers to assess the potential effects on families of modifying AFDC. Approved waiver programs were each evaluated to determine whether outcomes for families and children improved or worsened. The research projects identified the population of families that applied for or were already receiving cash welfare. Families were *randomly assigned* to experimental groups that operated under new conditions or to control groups that basically maintained the existing procedures and rules. Some of the waiver programs provided additional cash to experimental families that was unavailable to control families. Others provided no substantial

financial assistance but were rather concerned with requiring parents (again, mainly single mothers) to find and maintain employment.

The waiver study in Minnesota provides a taste of what was involved in these studies.<sup>20</sup> The welfare program in Minnesota was named the Minnesota Family Investment Program (MFIP). MFIP began before the 1996 changes in welfare legislation.

Under the State's waiver, groups were set up and tracked for three years. Single parent families who were long-term AFDC recipients were selected for the program. They were randomly assigned to one of three groups (**Figure 2**).

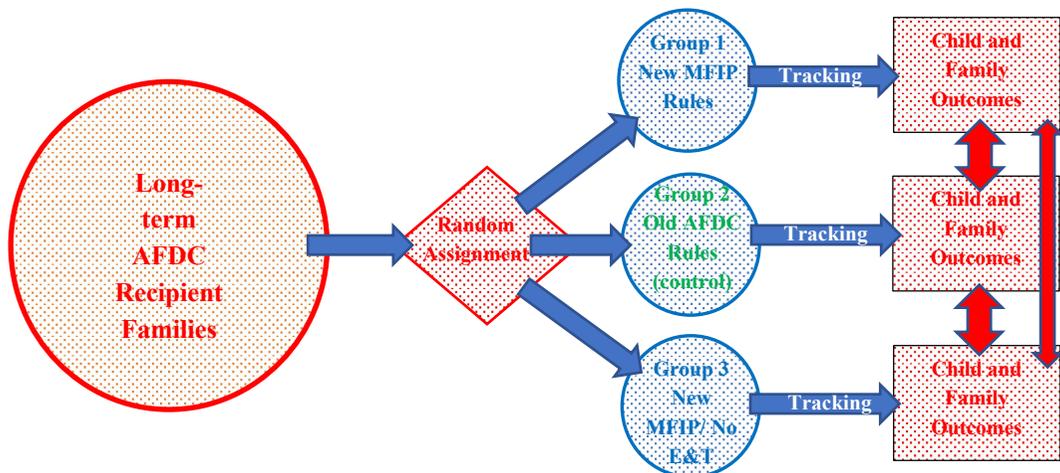


Figure 2. Design of Minnesota Waiver

Group 1 followed new MFIP rules that

- 1) Permitted more of the earnings of working families to be disregarded in calculating their supplemental benefits. This meant that they had more money than they would have had under AFDC.
- 2) In addition, childcare expenses were covered, and childcare providers were paid directly by the state.
- 3) Also, this group was required to participate in employment and training (E&T) activities designed to help them find a job if they were unemployed or if employed, to find a better job.

The latter requirement was waived for participants who were working 30 hours or more per week. In addition, it was waived for other reasons in a minority of cases, for example, when there was a child in the family under one or the mother was disabled.

- 4) Finally, the AFDC money was combined with state support funds and Food Stamps into a single cash payment. Like most welfare programs this one involved complex rules and procedures, but essentially these changes meant more money in the pockets of these families than they would have had under AFDC.

Group 2 followed the rules of the existing AFDC program and received the traditional benefits and certain benefits of other state financed programs.

Group 3 was set up to distinguish between the two different elements of Group 1: the financial incentives versus the employment requirements. None of the families assigned to this group were required to participate in the employment and training program. Like Group 1, they effectively received more money. This was a particularly thoughtful and useful research design.

One child was randomly selected in each family from among children in the 2-year to 9-year age range and was tracked over time. Two-thirds of these kids (66%) were under 6 at the time of random assignment. They were evenly divided by gender (male: 50.8%; female 49.2%) and about half (49.3%) were firstborn children. Three out of ten parents (30.1%) had not finished high school and the remainder had a high school diploma or GED (57.7%) or some higher education (12.1%). As noted, they were generally long-term AFDC recipients: 75.2% had been in the program for two years or more. They were families in poverty.

Here is what the study found after operating for three years. The earnings of families in groups 1 and 3 increased compared to group 2:

- Participation in MFIP led to increased use of formal child-care centers. Utilization of centers was 18% higher for these families compared to the control group.
- Regarding family relationships, physical and non-physical domestic abuse declined in the MFIP participating families by 11%.
- No differences were found for measures of parental depression.
- MFIP increased parental supervision of children and knowledge of the children's whereabouts while they were away from home.
- Compared to the control group, children in the MFIP groups had significantly fewer social behavioral problems, things like being disobedient or cruel, throwing temper tantrums or breaking things.
- The children scored significantly higher on school engagement. They also performed better in school (a statistical trend only).

By comparing Groups 1 and 3, the researchers were able to show that the positive results were not due to employment requirements. Increased money was the cause of the positive changes.

These kinds of studies were also conducted in other states. A paper by Clark-Kauffman and associates considered similar research in seven states and included the Minnesota study.<sup>21</sup> Some of the projects involved earnings supplements, like Minnesota, that increased the cash available to families. Others simply tacked on participation in employment and training activities to the old AFDC requirements with no or little increase in money. In the programs providing increased cash, families received additional money in the range of \$1,500 to \$2,000 per year. Others that emphasized employment and training (E&T) provided no or only minimal cash supplements, never more than \$250 per year. The researchers separated the effects of these two approaches in their analyses. When assessments were conducted of families 2 to 5 years after they entered the programs, it was found that:

- Offering generous cash supplements led to improvements in children's cognitive performance and/or school achievement. The differences were seen primarily among preschool children (ages 0-2 and 3-5 years at the time of entry into the study).

Another later paper by Duncan and associates reviewed and reanalyzed many of the same experiments but also examined other studies including two similar projects in Canada.<sup>22</sup> Again, they found that:

- Cognitive performance as reported by parents and teachers and in some cases by test scores improved but only among families that received earnings supplements. The correlation between increasing annual income and child achievement scores is presented graphically and convincingly in the article.<sup>23</sup>

In the Duncan review the authors speculated about possible causes of the positive cognitive changes in children. One thought was that the increased utilization of childcare centers might have been important. As an example, the increase cited for the Minnesota study was substantial. The researchers in Minnesota also found that childcare center usage was more consistent and occurred for a longer period when it was provided for by the State. We researchers at IAR learned about the preferences of poor mothers in a study of childcare conducted in Illinois. The study focused on the effects of making childcare available to mothers on welfare.<sup>24</sup> A pervasive idea at that time was that impoverished mothers did not want to put their children in formal childcare arrangements if they could avoid it.

Instead, it was thought that they preferred childcare by relatives. We found, on the contrary, that impoverished mothers, like most mothers, preferred formal childcare centers, although few could afford them.<sup>25</sup> This preference was reaffirmed again in the Minnesota study just described. The older notion arose by confusing *necessity with preference*. Poor mothers can seldom afford formal center fees and formal centers are often not available in or near their neighborhoods. The increase in use of centers in the welfare reform experiments may have been an important factor in explaining improved academic performance of children, particularly in children younger than 6. Centers have employees that supervise and interact with the children as part of their job. Many also have preschool books, schoolbooks, and educational toys and equipment. Very importantly, centers are places where children from impoverished families can meet other children from families with more resources. The influence of peers on children begins early and increases as they age. Of course, this is only speculation and does not prove *what* caused the improvements, although another study of the effects of formal preschool appears to support this interpretation.<sup>26</sup> Nonetheless, not explaining *how* does not detract from the fact *that* increased money in impoverished families leads to positive improvements in children's cognitive and academic performances.

The studies just considered in which benefits to families and children *increased* were experimental in nature. They *do not* represent what happened subsequently as PRWORA was implemented and TANF replaced AFDC across the US. In 1996, as TANF was implemented, 68% of families in poverty received such assistance. By 2017 the percentage had declined to just 23% (**Figure 3**), and the percentage was only that high because of more generous support in states such as California, New York and Minnesota.<sup>27</sup> In those three states, the percentages were greater than 40%. The experimental studies just considered consistently confirmed that more cash improves child welfare. TANF created barriers to program participation and thus effectively reduced cash to millions of impoverished families and children. Putting money into families improves child welfare. Taking money out reverses the process and damages the welfare of children.

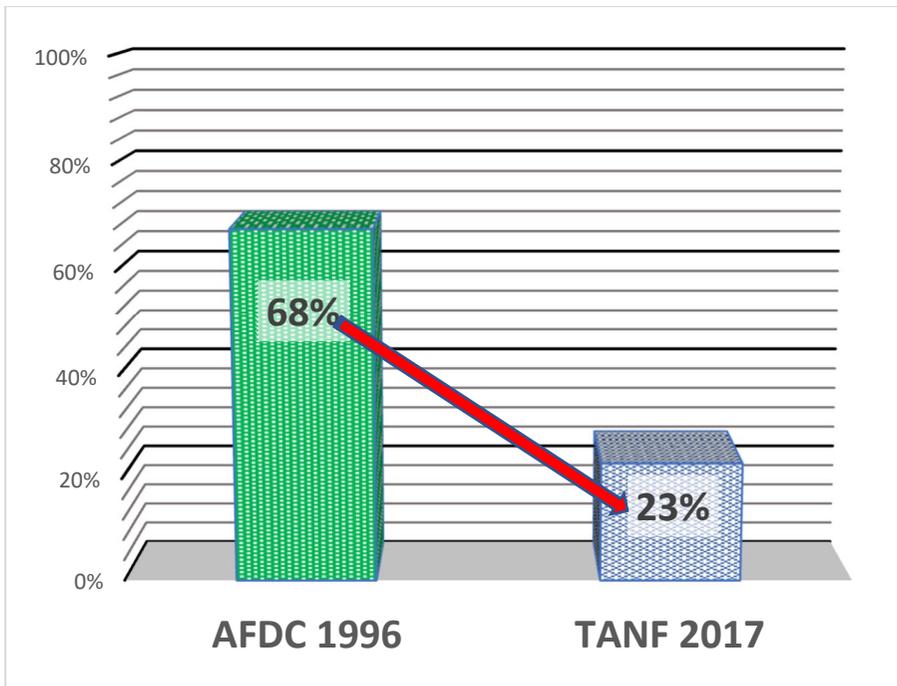


Figure 3. Massive decline from 1996 to 2017 of financial assistance to US Families with children in poverty

Another study is worth considering in this context. It examined a welfare program, called *Oportunidades* in Mexico. Manley and associates looked at the physical and cognitive changes in children based on transfers of money.<sup>28</sup> Under *Oportunidades*, poor households received payments that were conditioned on household members accepting medical check-ups, sending the children to school and attending education discussions with care providers. The study employed a quasi-experimental design. Statistically significant changes were observed between the experimental and control groups in:

- Children's height for age,
- Body Mass Index (BMI), and
- Verbal scores on the Wechsler Abbreviated Scale of Intelligence (WASI).
- A statistical trend was found in improved cognitive WASI scores.

The researchers demonstrated that effects on children were due to the additional cash received rather than length of time in the program.

## 2. Minimum Wage

What about the health of children? The *Oportunidades* program showed positive effects on children's height for age and their body mass index (BMI). An

important study by Komro and associates examined possible effects of minimum wage differences among US states on post-neonatal infant mortality and birth weight.<sup>29</sup> This is a highly relevant topic when considering the welfare of children. As the researchers point out excess infant deaths between the first month and the first year (28 to 364 days) after birth occurs largely among low socioeconomic status (SES) mothers. Infant mortality is strongly associated with low birth weight. In other words, when examining cases of deaths of babies, we find large numbers who had low birth weights, and this is also associated with poverty.

The Komro study examined whether *increases* in the legal minimum wage of various states might *reduce low birth-weight births* and *infant mortality*.<sup>30</sup> Looking at all 50 US states, 206 legal changes in state minimum wage were found during the 1980 to 2011 period. These were changes states made that were independent of any changes in the federal minimum wage. The difference compared to the federal standard was not great, averaging only approximately \$1.00/hour more than the federal minimum wage during the months in which the laws were in effect. Of course, this would amount to \$40 a week or approximately \$2,000 a year for full-time employment. That would be a maximum value since many minimum wage jobs are not full time. Health improvements were observed when this occurred. They found that in states that had legislated minimum wage increases:

- Low birth weight births declined significantly as did post-neonatal infant mortality.

Based on their findings, they estimated that if all states had increased their minimum wages by one dollar per hour there would have been 2,790 fewer low birth weight births in 2014 and 518 fewer post-neonatal deaths that year alone. Something that immediately jumps to mind is what would have been the effects of a \$2.00 or \$10.00 increase?

### 3. Earned Income Tax Credit (EITC)

The Earned Income Tax Credit (EITC) is a large program that began in 1975 and was expanded in the 1980's and early 1990's. It provides a federal tax refund to families with low incomes, and with the demise of cash welfare assistance as previously described, it is now the largest source of cash assistance in the United States. Several quasi-experimental studies have been conducted to determine whether the credit leads to improvements in the welfare of children in families receiving it. Since the more children in families the greater the tax credit received, it is possible to compare the outcomes for families with varying EITC payments that are otherwise highly similar.

A study by Hilary Hoynes and associates examined the effects of the EITC on children's health, specifically low-birthweight births.<sup>31</sup> They found that the increases in EITC (in 1993) led to:

- Declines of 2-3% in low birthweight births.

William Evans and Craig Garthwaite showed positive health-related improvements among low-educated mothers with two children (higher EITC) compared to similar mothers with only one child (lower EITC).<sup>32</sup> Specifically:

- Reported days of poor mental health declined and
- the number of days with excellent or very good health improved.

#### 4. Universal Basic Income

Increases in money to families with children in the welfare reform studies were dependent on income levels and employment. Minimum wage increases apply mainly to individuals who are living near or below poverty levels. What would happen if we simply disregarded such distinctions, many of which are invidious and potentially prejudicial, and distributed money equally to all? This is not a new idea and there are many names for it including: Basic Income (BI), Basic Income Guarantee (BIG), Universal Basic Income (UBI), Citizen's Income, Citizens Basic Income, and others. The third name from this list is used here. UBI is based on the idea that individual citizens (usually adults) will be paid a certain amount of money on a regular basis. The payments are equivalent for each person and are not conditioned on characteristics of the person being paid. Full-time employed, part-time employed, and unemployed persons are paid the same. The payment is not affected by marital status or current income levels (like food stamps) or disabilities (like SSI). Both men and women receive payments. Readers who are unaware of this movement will be amazed at the prodigious volume of literature describing and debating this idea and the number of people writing about it. Writing and debate increased markedly during the 2020-22 Covid-19 pandemic. The best international website is BIEN (Basic Income Earth Network: <https://basicincome.org/>). In the United States there is US BIG (U.S. Basic Income Guarantee: <https://usbig.net/>).

Experimental programs have been conducted in various states, regions and countries that have provided financial payments to families without regard to their current income or wealth. Much has been written about these, with proposals to expand them permanently. Here are five books about UBI that are worth perusing: Rutger Bregman's, *Utopia for Realists: How We Can Build the Ideal World*; Andrew Yang's *The War on Normal People*; Annie Lowrey's *Give People Money: How a Universal Basic Income Would End Poverty, Revolutionize Work, and*

*Remake the World*; and, Guy Standing's *Basic Income: A Guide for the Open-Minded*. Guy Standing has promoted the idea for decades and was one of the founders of BIEN, when the 'E' stood for European. A more recent book is *The Case for Universal Basic Income* by the co-chair of BIEN, Louise Haagh.<sup>33</sup>

#### 4a. UBI and Cherokee Children

This is a study of the effects of basic income among Cherokee children that compares children in Eastern Cherokee Indian families living on the reservation in North Carolina with children in non-Indian families in the same region.<sup>34</sup> Anyone who has read the books just mentioned will already be familiar with the study. It was a longitudinal study of child mental health that followed children in North Carolina for several years. The study included samples of Cherokee and non-Indian children selected in 1993. Longitudinal studies that track and observe samples (cohorts) over time are referred to as *panel* studies. The ages of the children were 9, 11 and 13 years at the time of assignment and these constituted age cohorts for the study.

During the study something happened that permitted a quasi-experimental analysis of UBI. In 1997, the reservation established a casino, and the decision was made to distribute some of the profits to all Indian adult tribal members as regular payments. Each Indian adult ended up receiving an average of \$4,000 per year. Thus, families with two Indian parents received a yearly average of \$8,000.

For our purposes here, it is important to note that, on average, the Indian households spent at least one year in poverty during the first three years of the study. During this period, the mean Cherokee household earned (\$20,919) nearly \$10,000 less than the non-Indian (\$30,377).

The study collected information on families and children regularly. The experimental group consisted of American Indian children in families receiving increased money. The researchers showed that the three age panels were similar in many ways in each of the two populations being studied. However, they utilized statistical techniques to equalize the characteristics of children and families in Indian and non-Indian households. Analysis indicated that the two types of households were equally affected by ongoing socioeconomic conditions. Similarly, the groups were and remained alike in household composition.<sup>35</sup> Readers who examine the detailed analyses will be reasonably assured that rough equivalence was achieved and that the subsequent comparisons of children and families were acceptable and demonstrated real effects of increased money in families.

Here is what they found:

- Increased income among Indian families due to the infusion of casino money increased a child's probability of finishing high school by nearly 15%.
- When children were tracked from households that had experienced poverty at some time during the three years prior to the casino opening, the educational effects were highly statistically significant for years of education completed and for graduating from high school. No difference between male and female children appeared for years of education—both showed positive effects.
- However, the girls had a higher probability of finishing high school than boys.

The effects of this analysis occurred when mothers were the recipients of the cash but not when fathers were the recipients. Possibly mothers were more likely to invest more for their children, but data for this possible cause were not available.

- School attendance was also shown to have increased and again this was especially true in the case of families that had previously experienced poverty.

Regarding criminal behavior:

- Children in households receiving casino cash had an 18% lower probability of having committed a minor crime than children in homes not receiving cash. The money did not appear to have affected the *number* of crimes but simply whether *any* crimes were committed.
- Based on the self-reports about their behavior, children in casino cash households were 7% less likely to have been involved in drug dealing.

The researchers were interested, of course, in changes in activities in families that might explain these effects. For instance, did the extra money permit parents to get their children into better educational programs? This question could not be answered because no data were collected about educational programs. Another idea is that the infusion of cash might have permitted mothers to work fewer hours and spend more time helping their children? Interestingly, for those who think that giving money to families might lead to idleness:

- Labor force participation rates of mothers *did not change*.

Perhaps the parenting behavior simply improved when more money became available. There was evidence in the study that this happened for parents, both individually and jointly.

- Supervision of children and reported positive interactions with them improved for both mothers and fathers.

Another finding concerning ongoing behavior and choices of parents was that increased money led to:

- Lower probability of the mother or the father being arrested by law enforcement.

The study provided strong evidence that regular infusion of money has positive consequences for children, particularly children in impoverished families.

#### 4b. UBI through the Canadian Mincome Project

This experiment in Universal Basic Income took place in Canada in the 1970's and looked for effects of a guaranteed annual income (GAI), another name for UBI. Like the Cherokee study just described it was aimed at the entire population, in this case, all the families in the town of Dauphin in Manitoba Province. The experiment is described in several of the books on UBI mentioned in the introduction to this section. It is included here because quasi-experimental analyses were subsequently conducted of the voluminous data collected on Dauphin families.

Evelyn Forget of the University of Manitoba was responsible for retrieving the data from the study, some 30 years after it ended. Mincome operated from 1974 to 1979 until a conservative government came into power in Canada, canceled the project and denied money, even for analysis of the voluminous data collected on outcomes for Dauphin residents. Dr. Forget finally found the data in 2009, after five years of searching, in paper files stored in 1,800 boxes in a government archive. At the time, officials were considering destroying the material because no one seemed interested in it! So much of our knowledge seems to be based on happenstance and luck, but Forget's efforts show the value of persistence.

In her 2011 paper analyzing the data, *The Town with No Poverty: The Health Effects of a Canadian Guaranteed Annual Income Field Experiment*, Forget recounts both the history and her analysis.<sup>36</sup> She notes that proponents of a Guaranteed Annual Income saw it as a way to eliminate the so-called *welfare trap*, the assumption that having an income test to qualify for welfare creates a strong disincentive to leave welfare rolls for work. Forget points out that the proponents of the field experiment accurately saw that there were "overlaps and gaps between programs that allowed some families to qualify under two or more programs while others fell between programs." Proponents also correctly noted that the poverty of the working poor was difficult to overcome. Finally, they also believed that it would be more cost efficient to offer payments through one bureaucracy as opposed to several.

What Forget does not note is that a single payment to everyone would eliminate the humiliation of applicants (through constant checkups to insure there is no cheating on earned income, forced participation in job-search programs, requiring proofs of disabilities, forced drug tests, etc.) that are still common elements of US welfare programs of all kinds.

On the one side of the political spectrum there is the assumption that poor and near poor individuals are lazy. It is easy to disprove this assertion. The poor and near poor do work, as they are able and as jobs are available. On the other side, there is the assumption that poor and near poor are stupid, too dumb to know what is good for them. Therefore, they must be guided and directed—through budgeting classes, decisions by service workers without input from recipients, instruction in how to dress and talk to their class superiors especially when seeking work, and so on

The Manitoba project was generally designed along the lines of the US experiments that is briefly described in the next section, although in the US families for the experimental group were randomly sampled and then matched with similar control families. The Dauphin project was a *saturation* site in that every family in the town and surrounding rural areas numbering about 12,500 was to receive a GAI check. Families with no other income would receive 60% of the Canadian low-income cutoff, with reductions of 50 cents for each dollar received from other sources. Families qualifying for public assistance would receive about the same level of support. The elderly, the working poor and single males would see a significant increase in income. GAI reception continued from 1974 through 1978.

The only part of the study that had been analyzed in the fifteen years following the project's demise concerned labor force participation. There was interest in whether supplying people with cash would lead them to drop out of the labor force. Would people who are currently working continue to work when substantial money was simply given to them? The findings were like those of the Cherokee study:

- There was very little change in labor force participation. Men worked about 1% fewer hours and women worked 3% fewer hours.
- An exception to this concerned married women who stayed out of the workforce longer when they gave birth.<sup>37</sup>

Study after study around the world has found the same thing: ***a guaranteed income does not lead to idleness.*** You can read about this in any of the books on UBI cited earlier.

Later researchers, including Forget, utilized health data from the province in their analysis. Since no community comparable to Dauphin existed in Manitoba, they selected carefully matched control cases from a variety of communities around the province.<sup>38</sup> Here is what the analysis showed:

- The rate of hospitalization of Dauphin residents declined by 8.5% compared to controls mostly because of reduced accidents, injuries and mental health services, all problems shown in past research to be negatively correlated with socioeconomic status (SES).
- Hospitalizations are generally indicators of poor health, but contacts with physicians were also reduced. The latter is a somewhat poorer health measure, presumably because some doctor visits simply represent regular health checkups.

These reductions represented an improvement from previously poorer comparative measures of health in Dauphin in 1970.

- More children continued into grade 12.

This change was particularly telling because the differences showed up precisely matched with the 1974-78 period of increased income. This finding corresponds to positive outcomes in the Cherokee study and the welfare reform experiments.

No evidence was found of improvements in fertility:

- UBI did not lead to more children being born.
- Unlike what we saw in the studies of minimum wage and EITC, no difference was found in birth outcomes as measured by low income or infant deaths. However, it must be noted that Canada, unlike the US, had universal health insurance during this period. Thus, prenatal care was provided to all pregnant women in Manitoba.
- There was no increase in family dissolutions.

A subsequent paper on Mincome by David Calnitsky, *“More Normal than Welfare”*: *The Mincome Experiment, Stigma, and Community Experience* examined community attitudes about the project.<sup>39</sup> Calnitsky went into the archived data and analyzed qualitative surveys of Dauphin participants. His paper lists numerous comments showing the motivation of Mincome participants. He categorized them in several different ways:

1. A need for money (e.g., “I needed more money to support the boys.”),

2. Security if unable to find work or in case of illness (e.g., “To back up my financial state in case of sickness.” or “Because if I ever get laid off I could live.”);
3. Could not find work (e.g., “No work at the time, no income.”);
4. Could not work because disabled, ill or elderly (e.g., “(John) had broken his leg and we needed help.” or “We had no other choice as my husband is disabled and with my health and age, I am unable to work full time...”);
5. To help care for family (e.g., “My children were young and I felt I was needed at home” or “I wasn’t eligible for welfare and had to support my son somehow.”);
6. Help in going to school (e.g., “We have a chance to improve our educational level in order to improve our income.”)
7. Better than welfare (e.g., “Because it offered more independence with money than welfare.”).

Thus, an important finding was that:

UBI *did not* lead to the social stigma associated with welfare programs. Offering financial assistance to everyone regardless of their current income, wealth or employment does away with the moral consideration of who does and does not *deserve help*.

In this sense UBI resembles Social Security in the United States, which is essentially an UBI program for the elderly. Franklin Roosevelt removed moral considerations associated with social security by making it universal and by casting it as contributory. When Universal Basic Income is instituted, moralistic prohibitions fade away.

#### 4c. Experiments in the United States

Those who are unfamiliar with Basic Income studies and the many books written about it are also usually unaware that several experiments were conducted in the US during the late 1960’s and 1970’s to test the effectiveness of UBI. Unlike the two studies just described the US programs that were studied were restricted to low-income populations. They were studies of negative income tax, like the EITC described earlier. However, they were large scale *prospective field experiments*, like the welfare reform studies and like our experiments described in Summary Paper 1. For those who are interested in detail, a full review of the studies was produced by Robert Levine and associates as a chapter in a later book.<sup>40</sup> The following draws on that paper. A brief history of the US efforts can also be found in Forget’s 2011 paper cited above. A fascinating account of how an analysis (that turned out to be

erroneous) of an early 19<sup>th</sup> century anti-poverty effort was used by Richard Nixon to reject income guarantee can be found in the fourth chapter of Rutger Bregman's book cited earlier and also in more historical detail in a chapter by Fred Block and Margaret Somers in the same book in which the Levine and associates' paper is found.<sup>41</sup>

As part of his War on Poverty, Lyndon Johnson instituted the Office of Economic Opportunity (OEO). Under it several experiments designed to measure the effects of a negative income tax were initiated in American cities and rural areas. The OEO was later abolished by Richard Nixon, although Nixon himself promoted the idea of a guaranteed income during the early years of his tenure as President. The big concern was that supplying poor folks with money would lead to lower labor supply by reducing labor force participation, which is a technical way of reiterating the idea that poor people, who are assumed to be lazy, will use free money as a pretext to avoid working. There was concern expressed later by politicians ideologically opposed to UBI that families receiving such cash were cheating (double dipping) by hiding their simultaneous participation in cash welfare programs.

Starting in 1968, four experiments were conducted: the New Jersey/Pennsylvania study of urban populations, the Gary Indiana study of single parents, the North Carolina/Iowa study of rural populations, and the Seattle/Denver income maintenance study. The research found that there was a reduction in work effort for families. It amounted to 13 percent but two-thirds of this came from secondary and tertiary earners, working women delaying return to work after an absence and other family members, such as youths, working less. The actual difference for primary earners was small.

Subsequent analysis of the Seattle-Denver study demonstrated that an earlier analysis showing extremely high marriage-dissolution rates of 57% among experimental families receiving cash was in error. Actually, no such difference occurred and no differences in subsequent studies, like the Dauphin experiment just described, have been found in divorces and separations in experimental versus control families.

Here are some findings relevant to the welfare and development of children.

- In North Carolina, attendance rates in grades 2 through 8 increased,
- Teacher ratings of students rose, and
- Test score improved.

The New Jersey study showed:

- A significant effect on school continuation, that is, *reduced dropouts* from schools,
- another outcome in which cash to families had an effect in contrast to direct efforts to work with youths to stay in school, which have generally been ineffective.

Remember that a reduction in dropping out of school was also found in the North Carolina Cherokee study.

The Gary study showed that:

- The incidence of low birthweight rates declined in the most at-risk categories. This was an early confirmation of the findings of later studies on minimum wage and EITC.

In the first year of the Gary experiment and in New Jersey and in the North Carolina/Iowa rural studies:

- Home ownership was achieved more often by experimental families.

### Summary of Field Experiments

As a first step, it will be worthwhile to review the findings five field experiments reviewed in the earlier Six Studies summary.<sup>42</sup> In that paper, five large scale and multi-year field experiments in Indiana, Nevada, Minnesota, Mississippi, and Ohio were reviewed. Experimental families received more material resources than control families. In all five studies subsequent reports of child maltreatment dropped for experimental families. In Mississippi and Indiana, the greatest differences were found for children in families that actually received services. Experimental children who remained with their parents were subsequently removed less often. In Ohio, relative improvements were found among experimental families in parenting and in areas normally considered as child neglect (supervision, basic needs, unsafe homes and medical treatment). School performance improved among experimental children in Indiana. The material and financial support in the five projects was often modest, involving temporary and one-time assistance. Yet, significant and sometimes substantial positive effects for children were observed. The resources that money can buy did seem to help children.

The present volume was concerned with experimental studies of programs that provided extra money on a more regular basis. A study of welfare reform in Minnesota considered the effects of increases in total cash benefits, including additional help with childcare. Participation in formal childcare centers increased substantially. Experimental children showed significantly fewer behavioral problems, such as disobedience, cruelty, throwing temper tantrums, breaking things.

Children scored higher in school engagement and performed better in school. Two other summary analyses considered similar experiments in other states that tested new approaches to welfare. One of the consistent effects found in these studies was that providing cash supplements led to improvements in children's cognitive performance and/or school achievement. In a study in Mexico, poor households received payments that were conditional on household members accepting medical check-ups, sending the children to school and attending education discussions with care providers. The study found Improvements in the children's height for age, improvements in children's BMI, and increases in their verbal intelligence and cognitive scores.

A study of state increases in minimum wage above the federal level found that low birth weight births declined significantly, and post-neonatal infant mortality declined.

Studies of the Earned Income Tax Credit (EITC) found that increased money through the EITC lowered low-birthweight births significantly, by an estimated 2-3%. Another study found that reported days of poor mental health declined and the number of days with excellent or very good health increased for low-educated mothers receiving additional cash through EITC. Certain health biomarkers also improved.

A study of a form of Universal Basic Income among Eastern Cherokee Indian families in North Carolina found that regular cash payments increased the probability of a child finishing high school by about 15%. School attendance was shown to have increased, especially for families that had previously experienced poverty. Children had an 18% lower probability of having committed a minor crime. Labor force participation rates did not change as a result of the UBI.

Analysis of the Canadian Mincome project also found that labor force participation rates changed only slightly during UBI payments. The study also found that hospitalizations declined for accidents, injuries, and mental health. More children continued into grade 12. Another study of Mincome found that offering financial assistance to everyone regardless of their current income, wealth or employment does away with the moral consideration of who does and does not deserve help.

Finally, four large scale field experiments of basic income in the United States showed various positive results for children. In one state, attendance rates in grades 2 through 8 increased, teacher ratings of students rose, and test score improved. In another, significant reductions in dropouts from schools were found.

In a third, the incidence of low birthweight rates declined in the most at-risk categories. In two of the studies home ownership was achieved more often by experimental families.

### The Economic Hardship-Child Outcome Model

These experimental studies support what was named in Volume 1 of this series as the *Economic Hardship-Child Outcome (EHCO) model*. That model combined two other models, the *Family Stress Model* and the *Family Resource Model*. These were outlined in Summary Paper 1 in this series. The EHCO model emphasizes the role of financial hardship on human behavior.

The EHCO model does not deemphasize the importance of behaviors and dispositions of parents and children. Individual differences are important explainers of disparities in child welfare. These include parental and child variations in neurology, endocrinology, brain development, and general health, to psychological traits like emotional control, introversion-extroversion, and general intelligence, to mental health issues such as depression and bipolar disorders, to a multiplicity of parenting behaviors, and to situational variables like social isolation, the quality of extended family relations and support, and so on. These each play their part in the variations in responses of adults to children. However, such differences exist among human beings at all social class levels and in all financial situations.

The EHCO model emphasizes the role of financial hardship but it does not contend that money solves all problems. Rather, lack money, that is, economic hardship, exacerbates negative traits, destructive behaviors and harmful human relationships while sufficient money makes the expression of positive traits, supportive behaviors and beneficial relationships more likely. That is what the studies reviewed in this and the previous paper show. This is the *aggravation from deprivation-alleviation from relief (ADAR)* understanding of child welfare. ***Financial deprivation aggravates other problems in families and makes positive outcomes less likely while financial relief alleviates problems and makes positive outcomes more likely.***

## References

- Akee R. K. Q., Copeland W. E., Keeler G., Angold A. & Costello E. J. (2010). Parents' Incomes and Children's Outcomes: A Quasi-experiment Using Transfer Payments from Casino Profits. *American Economic Journal: Applied Economics*, 2, 86–115.

- Aurand A., Emmanuel D., Errico E., Pinsky D. & Yentel D. (2019). *The Gap, A Shortage of Affordable Homes*. National Low Income Housing Coalition. Available at: [https://reports.nlihc.org/sites/default/files/gap/Gap-Report\\_2019.pdf](https://reports.nlihc.org/sites/default/files/gap/Gap-Report_2019.pdf)
- Block F. & Somers M. (2016). In the Shadow of Speenhamland: Social Policy and the Old Poor Law. Chapter 2 in *The Ethics and Economics of the Basic Income Guarantee*, ed. Widerquist K, Lewis M. A. & Pressman S. New York: Routledge.
- Bregman R. (2017). *Utopia for Realists: How We Can Build the Ideal World*. New York: Little, Brown and Company.
- Calnitsky D. (2016). “More Normal than Welfare”: The Mincome Experiment, Stigma, and Community Experience. *Canadian Review of Sociology*, 53,1, 26-71. Available at: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/cars.12091>
- Cascio E. U. (2019). *Does Universal Preschool Hit the Target? Program Access and Preschool Impacts*. Dartmouth College. Available at: <https://www.nber.org/papers/w23215>
- Chandler A. (2016). Why America Leads the World in Food Waste. *The Atlantic*, July 15, 2016
- Clark-Kauffman E., Duncan G. J. & Morris P. (2003). How welfare policies affect children and adolescent achievement. *American Economic Review*, 93, 299–303.
- Coleman-Jensen A., Rabbitt M. P., Gregory C. A. & Singh A. (2017). *Household Food Security in the United States in 2016*. Economic Research Report Number 237, Economic Research Service. U.S. Department of Agriculture. Available at: <https://www.ers.usda.gov/webdocs/publications/84973/err-237.pdf?v=0>
- Coley R. L., Leventhal T., Lynch A. D. & Kull M. (2012). Relations between Housing Characteristics and the Well-Being of Low-Income Children and Adolescents. *Developmental Psychology*, 49,9. 1775-1789.
- Cooper K. & Stewart K. (2017). *Does Money Affect Children’s Outcomes? An Update*. London: Centre for Analysis of Social Exclusion, London School of Economics. Available at: <https://www.jrf.org.uk/report/does-money-affect-children%E2%80%99s-outcomes>
- Culhane D., Treglia D., Steif K., Kuhn R. & Byrne T. (March 2020). *Estimated Emergency and Observational/Quarantine Capacity Need for the US*

- Homeless Population Related to COVID-19 Exposure by County; Projected Hospitalizations, Intensive Care Units and Mortality*. University of Pennsylvania. Available at: [https://endhomelessness.org/wp-content/uploads/2020/03/COVID-paper\\_clean-636pm.pdf](https://endhomelessness.org/wp-content/uploads/2020/03/COVID-paper_clean-636pm.pdf)
- Desmond M. (2016). *Evicted: Poverty and Profit in the American City*. New York: Crown Publishers.
- Dohoon L. & McLanahan A. (2015). Family Structure Transitions and Child Development: Instability, Selection and Population Heterogeneity. *American Sociological Review*, 80(4), 738-763.
- Duncan G. J., Morris P. & Rodrigues C. (2011). Does money really matter? Estimating impacts of family income on young children's achievement with data from random- assignment experiments. *Developmental Psychology*, 47, 1263–79.
- Evans W. & Garthwaite C. (2010). *Giving Mom a Break: The Impact of Higher EITC Payments on Maternal Health*. National Bureau of Economic Research. Available at: <https://www.nber.org/papers/w16296>
- Floyd IFE, Burnside A. & Schott L. (2018). *TANF Reaching Few Poor Families*. Center for Budget and Policy Priorities. Available at: <https://www.cbpp.org/research/family-income-support/tanf-reaching-few-poor-families>
- Forget E. (2011). The Town with No Poverty: The Health Effects of a Canadian Guaranteed Annual Income Field Experiment. *Canadian Public Policy – Analyse de Politiques*, 37, 3, 283-305. Available at: <https://www.utpjournals.press/doi/pdf/10.3138/cpp.37.3.283>
- Gennetian L. A. & Miller C. (2002). Children and Welfare Reform: A View from an Experimental Welfare Program in Minnesota. *Child Development*, 73, 601-620.
- Goux, D. & Maurin E. (2005). The Effect of Overcrowded Housing on Children's Performance in School. *Journal of Public Economics*, 89, 797-819.
- Haagh L. (2019). *The Case for Universal Basic Income*. Medford, MA: Polity Press.
- Hoynes H., Miller D. & Simon D. (2015). Income, the Earned Income Tax Credit, and Infant Health. *American Economic Journal: Economic Policy*, 7, 1, 172-211.
- Hum D. & Simpson W.. (1993). Whatever happened to Canada's guaranteed income project? *Canadian Public Administration / Administration publique du Canada* 36,3, 442-450.

- Johnson A. D. & Markowitz A. J. (2018). Associations between Household Food Insecurity in Early Childhood and Children’s Kindergarten Skills. *Child Development, 89*,2, e1-e17.
- Komro K. A., Livingston M. D., Markowitz S. & Wagenaar A. C. (2016). The Effect of An Increased Minimum Wage on Infant Mortality and Birth Weight. *American Journal of Public Health, 106*(8), 1514-1516.
- Levine R. A., Watts H., Hollister R., Williams W., O’Connor A. & Widerquist K. (2016). A Retrospective on the Negative Income Tax Experiments: Looking Back at the Most Innovative Field Studies in Social Policy.” Chapter 5 in *The Ethics and Economics of the Basic Income Guarantee*, ed. Widerquist K, Lewis M. A. & Pressman S. New York: Routledge. The book was originally published in 2005 by Ashgate Publishing.
- Loman L. A. (2006). *Families Frequently Encountered in Child Protection Services: A Report on Chronic Child Abuse and Neglect*. St. Louis, MO: Institute of Applied Research. Available at:  
<https://www.iarstl.org/papers/FEfamiliesChronicCAN.pdf>
- Loman L. A. & Siegel G. L. (2021). *Financial Hardship, Poverty, and Child Maltreatment: Six Studies in Five States*. St. Louis, MO: IAR Associates. Available at: <https://www.iarstl.org>
- Lowrey A. (2018). *Give People Money: How a Universal Basic Income Would End Poverty, Revolutionize Work, and Remake the World*. New York: Random House.
- Mabli J., Castner L., Ohls J., Fox M. K., Crepinsek M. K. & Condon E. (2010). *Food Expenditures and Diet Quality among Low-Income Households and Individuals*. Washington, D.C.: Mathematica Policy Research. Available at:  
<https://www.mathematica-mpr.com/our-publications-and-findings/publications/food-expenditures-and-diet-quality-among-lowincome-households-and-individuals>
- Manley J. G., Fernald L. C. H. & Gertler P. J. (2015). Wealthy, healthy and wise: Does money compensate for being born into difficult conditions? *Applied Economics Letters, 22*(2), 121-126. Available at:  
<http://dx.doi.org/10.1080/13504851.2014.929618>
- NAEH. (2020). *State of Homelessness: 2020 Edition*. National Alliance to End Homelessness. Available at: <https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-2020/>

- National Center for Educational Statistics. (2017). Trends in High School Dropout and Completion Rates in the United States. Available at: [https://nces.ed.gov/programs/dropout/ind\\_01.asp](https://nces.ed.gov/programs/dropout/ind_01.asp)
- Siegel G. L. & Loman L. A. (1991). *Child Care and AFDC Recipients in Illinois*. St. Louis, MO: Institute of Applied Research. The digest of the study is available at: <https://www.iarstl.org/papers/IllinoisChildCare.pdf>
- Siegel G. L. & Loman L. A. (2016). *Family Assessment in the District of Columbia: Program Evaluation*. St. Louis, MO: IAR Associates.
- Standing G. (2017). *Basic Income: A Guide for the Open-Minded*. New Haven: Yale University Press.
- Strully K. W., Rehkopf D. H. & Ziming X. (2010). Effects of Prenatal Poverty on Infant Health: State Earned Income Tax Credits and Birth Weight. *American Sociological Review*, 74, 4, 534-562.
- U.S. Department of Housing and Urban Development, Office of Community Planning and Development. (2019). *The 2018 Annual Homeless Assessment Report (AHAR) to Congress*. Available at: <https://files.hudexchange.info/resources/documents/2018-AHAR-Part-1.pdf>
- Waldfoegel J, Craigie T. A. & Gunn J. G. (2010). Fragile Families and Child Wellbeing. *The Future of Children* 20(2):87-112. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3074431/pdf/nihms-273444.pdf>
- Yang A. (2018). *The War on Normal People*. New York: Hachette Books.

---

<sup>1</sup> L. Anthony Loman & Gary L. Siegel. (2021). *Financial Hardship, Poverty, and Child Maltreatment: Six Studies in Five States*. St. Louis, MO: IAR Associates. Available at: <https://www.iarstl.org>

<sup>2</sup> Adam Chandler. (2016). Why America Leads the World in Food Waste. *The Atlantic*, July 15, 2016. <https://www.theatlantic.com/business/archive/2016/07/american-food-waste/491513/>

<sup>3</sup> Alisha Coleman-Jensen, Matthew P. Rabbitt, Christian A. Gregory & Anita Singh. (2017). *Household Food Security in the United States in 2016*. Economic Research Report Number 237, Economic Research Service. U.S. Department of Agriculture. Available at: <https://www.ers.usda.gov/webdocs/publications/84973/err-237.pdf?v=0>

<sup>4</sup> James Mabli, Laura Castner, James Ohls, Mary Kay Fox, Mary Kay Crepinsek & Elizabeth Condon. (2010). *Food Expenditures and Diet Quality among Low-Income Households and Individuals*. Washington, D.C.: Mathematica Policy Research. Available at: <https://www.mathematica-mpr.com/our-publications-and-findings/publications/food-expenditures-and-diet-quality-among-lowincome-households-and-individuals>

- 
- <sup>5</sup> Anna D. Johnson & Anna J. Markowitz. (2018). Associations between Household Food Insecurity in Early Childhood and Children's Kindergarten Skills. *Child Development*, 89,2, e1-e17.
- <sup>6</sup> The studies involved multi-method, multi-year evaluation research in Missouri, Minnesota, Nevada, Ohio, Mississippi, Indiana, Maryland and Washington, DC. Together these studies examined more than 20,000 families.
- <sup>7</sup> The first case study was drawn from our evaluation of the Minnesota differential response experiment. The second and third were drawn from a study we conducted in Mississippi. These studies are summarized in the first IAR Summary Report (see note 1). Another particularly good example can be found near the end of another study: Gary L. Siegel & L. Anthony Loman. (2016). *Family Assessment in the District of Columbia: Program Evaluation*. St. Louis, MO: IAR Associates, Pages 101-102.
- <sup>8</sup> Matthew Desmond. (2016). *Evicted: Poverty and Profit in the American City*. New York: Crown Publishers.
- <sup>9</sup> *State of Homelessness: 2020 Edition*. National Alliance to End Homelessness. Available at: <https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-2020/>
- <sup>10</sup> U.S. Department of Housing and Urban Development, Office of Community Planning and Development. (2019). *The 2018 Annual Homeless Assessment Report (AHAR) to Congress*. Available at: <https://files.hudexchange.info/resources/documents/2018-AHAR-Part-1.pdf>
- <sup>11</sup> Dennis Culhane, Dan Treglia, Ken Steif, Randall Kuhn & Thomas Byrne. (March 2020). *Estimated Emergency and Observational/Quarantine Capacity Need for the US Homeless Population Related to COVID-19 Exposure by County; Projected Hospitalizations, Intensive Care Units and Mortality*. University of Pennsylvania. Available at: [https://endhomelessness.org/wp-content/uploads/2020/03/COVID-paper\\_clean-636pm.pdf](https://endhomelessness.org/wp-content/uploads/2020/03/COVID-paper_clean-636pm.pdf)
- <sup>12</sup> Andrew Aurand, Dan Emmanuel, Ellen Errico, Dina Pinsky & Diane Yentel. (2019). *The Gap, A Shortage of Affordable Homes*. National Low Income Housing Coalition. Available at: [https://reports.nlihc.org/sites/default/files/gap/Gap-Report\\_2019.pdf](https://reports.nlihc.org/sites/default/files/gap/Gap-Report_2019.pdf)
- <sup>13</sup> Rebekah Levine Coley, Tama Leventhal, Alicia Doyle Lynch & Milissa Kull. (2012). Relations between Housing Characteristics and the Well-Being of Low-Income Children and Adolescents. *Developmental Psychology*, 49,9. 1775-1789.
- <sup>14</sup> Dominique Goux & Eric Maurin. (2005). The Effect of Overcrowded Housing on Children's Performance in School. *Journal of Public Economics*, 89, 797-819.
- <sup>15</sup> National Center for Educational Statistics. (2017). Trends in High School Dropout and Completion Rates in the United States. Available at: [https://nces.ed.gov/programs/dropout/ind\\_01.asp](https://nces.ed.gov/programs/dropout/ind_01.asp)
- <sup>16</sup> Jane Waldfogel, Terry Ann Craigie & Jeanne Brooks Gunn. (2010). Fragile Families and Child Wellbeing. *The Future of Children* 20(2):87-112. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3074431/pdf/nihms-273444.pdf>
- <sup>17</sup> Lee Dohoon & Sara McLanahan. (2015). Family Structure Transitions and Child Development: Instability, Selection and Population Heterogeneity. *American Sociological Review*, 80(4), 738-763. McLanahan is the Princeton sociologist who has directed the Fragile Families studies for many years.

---

<sup>18</sup> L. Anthony Loman. (2006). *Families Frequently Encountered in Child Protection Services: A Report on Chronic Child Abuse and Neglect*. Institute of Applied Research. Available at: <https://www.iarstl.org/papers/FEfamiliesChronicCAN.pdf>

<sup>19</sup> Kerris Cooper & Kitty Stewart. (2017). *Does Money Affect Children's Outcomes? An Update*. London: Centre for Analysis of Social Exclusion, London School of Economics. The table presented at the end of their paper is a useful summary of the results of the reviewed studies and well worth perusing. Available at: <https://www.jrf.org.uk/report/does-money-affect-children%E2%80%99s-outcomes>

<sup>20</sup> Lisa A. Gennetian & Cynthia Miller. (2002). Children and Welfare Reform: A View from an Experimental Welfare Program in Minnesota. *Child Development*, 73, 601-620.

<sup>21</sup> Elizabeth Clark-Kauffman, Greg J. Duncan & Pamela Morris. (2003). How welfare policies affect children and adolescent achievement. *American Economic Review*, 93, 299-303.

<sup>22</sup> Greg J. Duncan, Pamela Morris & Chris Rodrigues. (2011). Does money really matter? Estimating impacts of family income on young children's achievement with data from random- assignment experiments. *Developmental Psychology*, 47, 1263-79.

<sup>23</sup> *Ibid.* Duncan, et al. The Figure on page 1273 and the discussion on page 1271 demonstrate the strong correlation over multiple studies between the achievement of children and family income.

<sup>24</sup> Gary L. Siegel & L. Anthony Loman. (1991). *Child Care and AFDC Recipients in Illinois*. Institute of Applied Research. The digest of the study is available at: <https://www.iarstl.org/papers/IllinoisChildCare.pdf>

<sup>25</sup> *Ibid.* Look on pages 13 and 14 for this material.

<sup>26</sup> Elizabeth U. Cascio. (2019). *Does Universal Preschool Hit the Target? Program Access and Preschool Impacts*. Dartmouth College. Available at: <https://www.nber.org/papers/w23215>

<sup>27</sup> IFE Floyd, Ashley Burnside & Liz Schott. (2018). *TANF Reaching Few Poor Families*. Center for Budget and Policy Priorities. Available at: <https://www.cbpp.org/research/family-income-support/tanf-reaching-few-poor-families>

<sup>28</sup> James G. Manley, Lia C. H. Fernald & Paul J. Gertler. (2015). Wealthy, healthy and wise: Does money compensate for being born into difficult conditions? *Applied Economics Letters*, 22(2), 121-126. Available at: <http://dx.doi.org/10.1080/13504851.2014.929618>

<sup>29</sup> Kelli A. Komro, Melvin D. Livingston, Sara Markowitz & Alexander C. Wagenaar. (2016). The Effect of An Increased Minimum Wage on Infant Mortality and Birth Weight. *American Journal of Public Health*, 106(8), 1514-1516.

<sup>30</sup> *Ibid.* The method is difference in difference multiple regression. In this case, outcomes before and after increases in legal minimum wages in states enacting such laws were compared to changes in states that did not increase their minimum wage. Differences among states comparing before-after differences were analyzed, thus difference in difference. A criticism of this method is that other differences between states may have accounted for any observed effects. The authors describe the statistical methods they used to control for such effects and also explicitly included several relevant covariates: poverty rate, cigarette sales, percentage of African American mothers and the mean age of mothers.

<sup>31</sup> Hilary Hoynes, Doug Miller & David Simon. (2015). Income, the Earned Income Tax Credit, and Infant Health. *American Economic Journal: Economic Policy*, 7, 1, 172-211. An earlier study also

---

examined the effects of the EITC on infant birth weight, showing that increased EITCs increased birth weight and reduced maternal smoking. Kate W. Strully, David H. Rehkopf & Xuan Ziming. (2010). Effects of Prenatal Poverty on Infant Health: State Earned Income Tax Credits and Birth Weight. *American Sociological Review*, 74, 4, 534-562.

<sup>32</sup> William Evans & Craig Garthwaite. (2010). *Giving Mom a Break: The Impact of Higher EITC Payments on Maternal Health*. National Bureau of Economic Research. Available at: <https://www.nber.org/papers/w16296>

<sup>33</sup> Rutger Bregman. (2017). *Utopia for Realists: How We Can Build the Ideal World*. New York: Little, Brown and Company; Andrew Yang. (2018). *The War on Normal People*. New York: Hachette Books; Annie Lowrey. (2018). *Give People Money: How a Universal Basic Income Would End Poverty, Revolutionize Work, and Remake the World*. New York: Random House; Guy Standing. (2017). *Basic Income: A Guide for the Open-Minded*. New Haven: Yale University Press; Louise Haagh. (2019). *The Case for Universal Basic Income*. Medford, MA: Polity Press.

<sup>34</sup> Randall K. Q. Akee, William E. Copeland, Gordon Keeler, Adrian Angold & E. Jane Costello. (2010). Parents' Incomes and Children's Outcomes: A Quasi-experiment Using Transfer Payments from Casino Profits. *American Economic Journal: Applied Economics*, 2, 86-115.

<sup>35</sup> *Ibid*. The study also used a difference-in-difference regression technique as described in the previous notes on the Komro (2016) study. See note above.

<sup>36</sup> Evelyn Forget. (2011). The Town with No Poverty: The Health Effects of a Canadian Guaranteed Annual Income Field Experiment. *Canadian Public Policy – Analyse de Politiques*, 37, 3, 283-305. Available at: <https://www.utpjournals.press/doi/pdf/10.3138/cpp.37.3.283>

<sup>37</sup> Derek Hum & Wayne Simpson. (1993). Whatever happened to Canada's guaranteed income project? *Canadian Public Administration / Administration publique du Canada* 36,3, 442-450.

<sup>38</sup> They matches on hard characteristics, like age and sex, and also used propensity score matching.

<sup>39</sup> David Calnitsky. (2016). "More Normal than Welfare": The Mincome Experiment, Stigma, and Community Experience. *Canadian Review of Sociology*, 53,1, 26-71. Available at: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/cars.12091>

<sup>40</sup> Robert A. Levine, Harold Watts, Robinson Hollister, Walter Williams, Alice O'Connor & Karl Widerquist. (2016). "A Retrospective on the Negative Income Tax Experiments: Looking Back at the Most Innovative Field Studies in Social Policy." Chapter 5 in *The Ethics and Economics of the Basic Income Guarantee*, ed. Karl Widerquist, Michael Anthony Lewis & Steven Pressman. New York: Routledge. The book was originally published in 2005 by Ashgate Publishing. The entire book is certainly worth reading but it was evidently conceptualized as a textbook of limited general interest. Thus, it is very expensive in paper form but can be purchased more cheaply as an eBook, rented even more cheaply, or may be found for free in some libraries.

<sup>41</sup> Fred Block & Margaret Somers. (2016). In the Shadow of Speenhamland: Social Policy and the Old Poor Law. Chapter 2 in *The Ethics and Economics of the Basic Income Guarantee*, ed. Karl Widerquist, Michael Anthony Lewis & Steven Pressman. New York: Routledge.

<sup>42</sup> L. Anthony Loman & Gary L. Siegel. (2021). *Financial Hardship, Poverty, and Child Maltreatment: Six Studies in Five States*. St. Louis, MO: IAR Associates. Available at: <https://www.iarstl.org>