

# **NUDGES FOR CHILD SUPPORT**

## Applying Behavioral Insights to Increase Collections

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# NUDGES FOR CHILD SUPPORT:

## Applying Behavioral Insights to Increase Collections

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## OVERVIEW

The Behavioral Interventions to Advance Self-Sufficiency (BIAS) project, sponsored by the Office of Planning, Research and Evaluation (OPRE) of the Administration for Children and Families (ACF) in the U.S. Department of Health and Human Services and led by MDRC, is the first major opportunity to use a behavioral economics lens to examine programs that serve poor and vulnerable families in the United States. This report presents findings from four tests of behavioral interventions intended to increase the percentage of parents who made child support payments and the dollar amount of collections per parent in Cuyahoga County, Ohio.

Parents who owe child support and do not have their payments automatically deducted from their paychecks through income withholding typically need to actively initiate a new payment each month. The BIAS team examined the payment process in Cuyahoga County and diagnosed a number of behavioral factors potentially impeding collections. The team collaborated with the Cuyahoga Office of Child Support Services (OCSS) to design a number of behavioral interventions intended to increase collections and evaluate them using randomized controlled trials.

These tests replicated and extended previous BIAS research on child support payments in Franklin County, Ohio, which tested a variety of payment reminders and found that they increased the percentage of parents making a payment, though none of them produced statistically significant increases in collections per parent. Examining similar issues in Cuyahoga County allowed the BIAS team to more rigorously address research questions from the earlier evaluation and explore related but new research questions. Findings from the Cuyahoga tests include:

- Mailing a behaviorally informed payment reminder notice to parents without income withholding or cell phone numbers on file with OCSS increased their likelihood of payment by 2.4 percentage points, from 38.2 percent to 40.7 percent, compared with sending no reminder.
- Sending text message reminders to parents without income withholding but with cell phone numbers on file increased their likelihood of payment by 2.5 percentage points, from 47.3 percent to 49.8 percent, compared with sending no reminder at all. Text messages were as effective as the behaviorally informed mailing for this group, but cost significantly less.
- The state already sends a payment reminder notice to some parents not making income withholding payments. Mailing the behaviorally informed notice to these parents did not increase their likelihood of payment, compared with continuing to send the existing state notice.
- Mailing a behaviorally informed welcome letter and payment reminder notices to parents with new orders did not increase their likelihood of payment in the first few months of their order, compared with sending the county's existing welcome letter.
- None of the interventions produced statistically significant increases in collections per parent.

These findings demonstrate that low-cost, low-effort behavioral interventions can improve child support outcomes. However, more intensive interventions may be necessary to increase overall child support collection amounts, perhaps because some parents have a limited ability to pay.

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The Authors

# EXECUTIVE SUMMARY

The Behavioral Interventions to Advance Self-Sufficiency (BIAS) project is the first major opportunity to use a behavioral economics lens to examine programs that serve poor and vulnerable families in the United States. Sponsored by the Office of Planning, Research and Evaluation (OPRE) of the Administration for Children and Families (ACF) in the U.S. Department of Health and Human Services and led by MDRC, the project applies behavioral insights to issues related to the operations, implementation, and efficacy of social service programs and policies. The goal is to learn how tools from behavioral science can be used to deliver programs more effectively and, ultimately, improve the well-being of low-income children, adults, and families.

The Cuyahoga County Office of Child Support Services (OCSS), which serves the Cleveland, Ohio, area, collects more than \$157 million in child support each year from over 70,000 cases in which a noncustodial parent owes child support.<sup>1</sup> The BIAS team employed a process called behavioral diagnosis and design to research the child support payment process in Cuyahoga County. The process consists of four phases: (1) defining the problem, (2) diagnosing the factors causing the problem, (3) designing interventions to address those hypothesized behavioral sources of the problem, and (4) testing those interventions. This report presents findings from four tests of low-cost behavioral interventions designed to increase the collection of child support payments.

## Define

OCSS wanted to increase the percentage of noncustodial parents making child support payments, and the total dollar amount of those payments. OCSS collects approximately 60 percent of current child support payments due, which is below the state and national averages and short of the county's goals.<sup>2</sup> OCSS's performance may reflect the fact that Cuyahoga County's population is more economically disadvantaged than the state and national averages.<sup>3</sup> In particular, OCSS was focused on improving the payment behavior of noncustodial parents whose child support payments are not automatically deducted from their paychecks through income withholding or who have a newly opened child support order, as these parents usually need to actively initiate a new payment each month.

## Diagnose

Consistent with the BIAS project's past research in nearby Franklin County, Ohio, the team found that in Cuyahoga County less than 40 percent of noncustodial parents were making payments through income withholding, even though approximately 70 percent of all collections were made via this method.<sup>4</sup> The reasons

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1 Correspondence with site (August 18, 2014). This report employs the term "noncustodial parent" because it is widely used by child support policymakers and researchers. However, the term is not wholly accurate in this case since not all noncustodial parents owe child support and those that do owe child support may have joint or sole custody of their child.

2 Correspondence with site (August 18, 2014); Office of Child Support Enforcement, *FY2014 Preliminary Report* (Washington, DC: Office of Child Support Enforcement, Administration for Children and Families, U.S. Department of Health and Human Services, 2015).

3 U.S. Census Bureau, "State & County QuickFacts Beta 2.0: Cuyahoga, Ohio" (2015). Website: [quickfacts.census.gov](http://quickfacts.census.gov).

4 Correspondence with site (June 8, 2015); Peter Baird, Leigh Reardon, Dan Cullinan, Drew McDermott, and Patrick Landers, *Reminders to Pay: Using Behavioral Economics to Increase Child Support Payments*, OPRE Report 2015-20 (Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2015).

for this disparity are that parents enrolled in income withholding on average pay a higher percentage of their child support obligations than parents not enrolled in income withholding, and those with regular employment may potentially have higher obligation amounts. A noncustodial parent who is not enrolled in income withholding generally does not have any “attachable wages,” which means that the child support agency does not know about the parent’s employment, the wages are not paid through a typical payroll system (for example, the parent is self-employed), or the parent has no job or income. These noncustodial parents are responsible for making a child support payment each month by mail, online, or in person. While the state was mailing a monthly payment reminder notice to some noncustodial parents who were not enrolled in income withholding, over 17,000 parents in Cuyahoga County not making income withholding payments were not being sent any such notice.<sup>5</sup>

The team identified a number of potential bottlenecks related to the child support payment process for noncustodial parents not enrolled in income withholding. Based on interviews with parents and staff, the BIAS team hypothesized that the lack of reminder notices might negatively impact payment activity. The team also hypothesized that, even for those who receive it, the state payment reminder notice could be confusing or discouraging. Additionally, the team identified several bottlenecks that potentially impact parents with new child support orders. OCSS currently mails these parents a welcome letter containing little information about making child support payments and does not send a reminder to start paying, even though there is a delay of several months before income withholding begins.

## Design

Based on the findings from the behavioral diagnosis and design process, the BIAS team and OCSS created several behavioral interventions to address bottlenecks within the existing child support payment system.

The first three tests targeted parents who were not making payments through income withholding. The tested interventions included a new redesigned mailed notice and text messages reminding parents to pay. These tests were similar to those conducted in the earlier Franklin County study. However, the Cuyahoga County tests allowed the BIAS team to explore related but new research questions, more rigorously address some of the research questions from the earlier evaluation, and study whether the original findings would replicate in another setting.

The fourth test, aimed at addressing bottlenecks for parents with new child support orders, included a behaviorally informed “welcome letter” that used a more positive tone and provided visual cues and detailed information on how to start making child support payments. The letter also included clearer timelines and information about when income withholding would begin, for those who would be enrolled in withholding.

## Test

Tests 1, 2, and 4 began in September 2014, Test 3 began in October 2014, and all four tests ended in January 2015. Outcomes were tracked during the test months. Each of the tests addressed a different research question, and the findings are summarized in Figure ES.1. All of the tests used a random assignment research design to compare a program group or groups sent intervention materials with a control group sent status quo materials.<sup>6</sup>

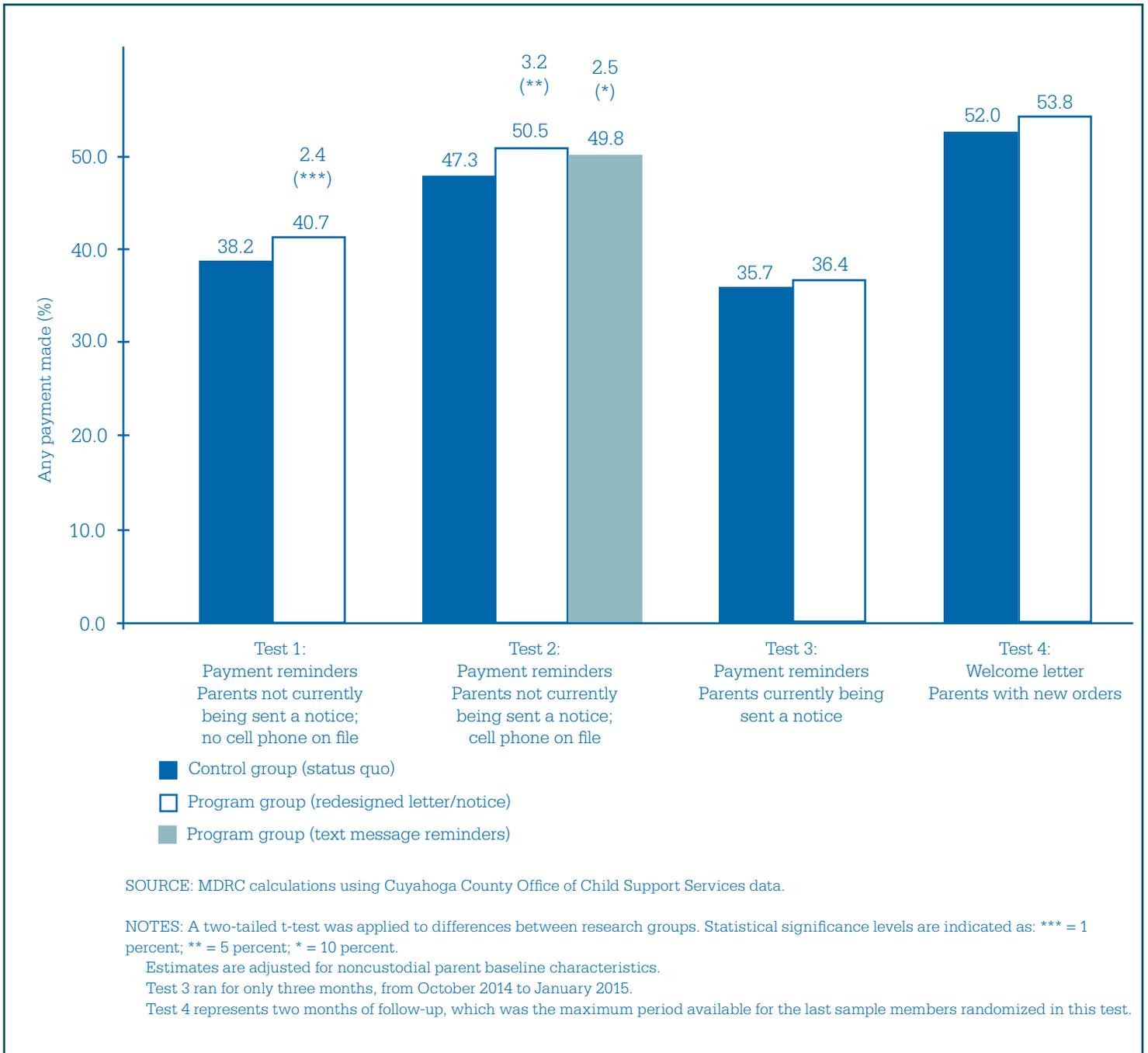
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5 The state, on behalf of the counties, generally sends payment reminder notices to parents without income withholding. Some parents have records of income withholding orders for their child support cases and therefore are not sent reminders; however, they are not making payments through the income withholding orders, most likely because the orders are based on inaccurate employment information.

6 The BIAS team tests behavioral interventions using a random assignment design, whereby some portion of a given sample is provided the intervention and the rest continues with business as usual. Randomized controlled trials are considered the most rigorous and accurate way to detect and evaluate the impact of an intervention.

## FIGURE ES.1 CHILD SUPPORT PAYMENT OUTCOMES: SEPTEMBER 2014 – JANUARY 2015

CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES



### **Test 1: Do Reminders Lead to More Payments Relative to No Reminders?**

This test focused on noncustodial parents who were not currently paying through income withholding, were not already being sent the existing state reminder, and did not have a cell phone number on file with OCSS. Parents were randomly split into a control group that was not sent a reminder and a program group that was sent a behaviorally informed payment reminder notice. The BIAS team redesigned the notice to include simplified payment instructions, the child's name to emphasize the purpose of the payment, and the fact that parents could make a partial payment.

*Findings:* Sending a reminder to pay increased the percentage of noncustodial parents who made a payment by a statistically significant 2.4 percentage points, from 38.2 percent to 40.7 percent. However, the increase in total dollar amount of collections per person, while similar in size, was not statistically significant.

### **Test 2: Do Text Messages or Mailed Reminders Lead to More Payments?**

This test included noncustodial parents who were not currently paying through income withholding, were not already being sent the existing state reminder, and had a cell phone number on file. Parents were randomly split into three groups: a control group that was sent no reminder, a program group that was sent two text message reminders each month, and another program group that was sent the monthly redesigned notice from Test 1.

*Findings:* In this sample, both the mailed and text message payment reminders increased the percentage of noncustodial parents who made a payment by a statistically significant amount. Mailing a reminder to these parents increased the percentage who made a payment by 3.2 percentage points, from 47.3 percent to 50.5 percent, while sending text messages increased the percentage by 2.5 percentage points, from 47.3 percent to 49.8 percent. Total collection amounts did not increase for either group. The differences in likelihood of payment and collection amounts per parent between those sent text messages and those sent a mailed reminder were not statistically significant, which suggests that neither intervention was more effective than the other.

### **Test 3: Do Behaviorally Informed Reminders or Standard Reminders Lead to More Payments?**

This test incorporated parents who were not currently paying through income withholding and who were already being sent a payment reminder notice from the state. Parents were randomly split between a control group who continued to be sent the existing state notice and a program group whose current state notice was replaced with the behaviorally informed notice from Tests 1 and 2.

*Findings:* The redesigned payment reminder notice did not increase the percentage of noncustodial parents making payments or the dollar amount of those payments. These findings suggest that there is no advantage to using the redesigned payment reminder notice over the current state payment reminder notice, despite the use of behaviorally informed language and postage-paid return envelopes that were included with the program group notices.

### **Test 4: Do Behaviorally Informed Welcome Letters and Payment Reminder Notices Increase Payments in the First Few Months After an Order Is Established?**

For this test, the BIAS team redesigned Cuyahoga County's existing child support welcome letter. Parents with new child support orders were randomly split into a control group that was sent the existing welcome letter and no payment reminders, and a program group that was sent the behaviorally informed welcome letter and the monthly redesigned payment reminder notices from Tests 1, 2, and 3. The redesigned welcome letter clarified that income withholding would not begin immediately and that parents should submit payments until withholding started. It also included key information on how to send child support payments, had a more positive tone, and used timelines and visual aids.

*Findings:* The BIAS welcome letter and redesigned reminder notices did not result in a statistically significant impact on either the likelihood of parents making a payment or the amount paid during the study period. However, the sample size in this test (1,303 individuals) is many times smaller than those of the other tests and not large enough to detect very small payment differences of magnitudes such as those detectable in the other tests.<sup>7</sup>

## Conclusion

The BIAS team and OCSS conducted four tests of behaviorally informed interventions intended to address potential bottlenecks related to the child support payment process. All of the interventions were low cost and easy to administer. The first two tests found that sending mailed and text message payment reminders to those who were not previously being sent one increased the percentage of parents making payments, which is notable given the targeted population's often sporadic payment history. The resulting payments translated into money those custodial families and the state may not have otherwise received. However, the additional payments did not increase collections per parent by a statistically significant amount. The third test found that a behaviorally informed payment reminder notice did not increase the likelihood of payment or collection amounts per parent relative to the existing state notice. In the fourth test, a redesigned welcome letter in conjunction with payment reminders was no more effective than the existing state welcome letter at increasing the percentage of parents making payments or the dollar amount of those payments for parents with new orders. The findings from these four tests are similar to those from the BIAS payment reminder tests in Franklin County. Overall, these tests suggest that any form of reminder to pay has a positive effect compared with no reminder at all, but there is no evidence that one form of reminder is more effective than any other.

These tests offer important lessons for child support agencies: reminders are an inexpensive and effective way to modestly increase the percentage of parents making payments. Since there was no evidence that the type of payment reminder matters as much as the existence of the reminder itself, child support agencies may wish to use the least expensive options.

While the low-cost behavioral nudges tested in Cuyahoga and Franklin counties were easy to administer, their impacts may speak to the limitations of behavioral nudges in some contexts. Noncustodial parents without income withholding present a unique challenge to child support agencies, given that their employer generally pays them outside of a typical payroll system, they have sporadic employment, or they are unemployed. Some noncustodial parents in these situations may simply be financially unable to make their current child support payments. Future research on how to increase collections could focus on other key areas that might have a significant impact on collections, such as employment services, order modifications, and parent-child engagement.

Behavioral economics provides a new way of thinking about the design of human services programs and a potentially powerful set of tools for improving program outcomes. The BIAS project offers the opportunity for continued hypothesis-testing grounded in behavioral economics and takes advantage of the low-cost, iterative nature of rapid-cycle experimentation. In addition to the Ohio child support research and work covered in earlier reports (see the list of previously published research at the back of this report), the BIAS project has completed evaluations with other partners, including the Los Angeles County (California) Department of Public Social Services, the Indiana Office of Early Childhood and Out of School Learning, and the Washington State Division of Child Support. Results from these evaluations will be published as they become available to further inform this rapidly developing field.

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<sup>7</sup> The minimum detectable effect is two to four times larger in this test than in the other tests.

# NUDGES FOR CHILD SUPPORT: Applying Behavioral Insights to Increase Collections

The Behavioral Interventions to Advance Self-Sufficiency (BIAS) project is the first major opportunity to use a behavioral economics lens to examine programs that serve poor and vulnerable families in the United States. Sponsored by the Office of Planning, Research and Evaluation (OPRE) of the Administration for Children and Families (ACF) in the U.S. Department of Health and Human Services and led by MDRC, the project applies behavioral insights to issues related to the operations, implementation, and efficacy of social service programs and policies. The goal is to learn how tools from behavioral science can be used to deliver programs more effectively and, ultimately, improve the well-being of low-income children, adults, and families. For more information about behavioral economics, see Box 1.

This report presents findings from four tests of behavioral interventions designed to increase the collection of child support payments in Cuyahoga County, Ohio.<sup>1</sup> After introducing the child support policy context and BIAS project research methodology, this report reviews hypotheses for why some parents fail to make regular child support payments and describes three tests of reminder interventions designed to address some of those factors. In addition, the report provides hypotheses for why some parents *with newly opened orders* fail to make regular child support payments and describes the design and results of a fourth test that attempts to address those issues. The report concludes by discussing the potential implications of this research for child support agencies, policymakers, and future research. Behavioral terms used throughout this report are in bold type the first time they appear and are defined in Appendix Table A.1.

## The National Child Support Context

In addition to providing emotional, social, and other forms of assistance, noncustodial parents often aid their children by making child support payments.<sup>2</sup> The United States child support system is led by the federal Office of Child Support Enforcement, which helps states, territories, and tribes develop, manage, and operate their programs effectively and in accordance with federal law. The program serves 16 million children annually and collects \$32 billion worth of payments.<sup>3</sup> However, billions of dollars of child support obligations go unpaid each year, negatively affecting the economic well-being of many custodial parents and their children.<sup>4</sup> This outcome is particularly concerning for the 29 percent of custodial families eligible for child support who have incomes below the federal poverty level. For custodial families with incomes below the federal poverty level who actually receive child support, the payments on average account for 45 percent of their income.<sup>5</sup>

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- 1 The BIAS project tests behavioral interventions using a random assignment design, whereby some portion of a given sample receives the intervention (the “program group”) and the rest continues with business as usual (the “control group”). Randomized controlled trials are considered the most rigorous form of evaluation and the most accurate way to detect the impact of an intervention.
  - 2 This report uses the term “noncustodial parents” (that is, parents who do not have custody of their children) because the phrase is widely used by child support policymakers and researchers. However, not all parents without custody owe child support, and some parents who do owe child support actually have joint or sole custody of their child.
  - 3 Office of Child Support Enforcement (2015a).
  - 4 Office of Child Support Enforcement (2015b).
  - 5 Office of Child Support Enforcement (2015a).

## BOX 1 BEHAVIORAL ECONOMICS

Behavioral economics, part of the broader field of behavioral science, is the application of psychological insights to economic models of decision making.<sup>\*</sup> Innovative research in this area has shown that human decision making is often imperfect and imprecise. People — clients and program administrators alike — procrastinate, get overwhelmed by choices, and miss important details. As a result, both program administrators and participants may not always achieve the goals they set for themselves. Principles from behavioral economics can both shed light on decision making and offer new tools to improve outcomes for program participants.

Research has shown that small changes in the environment can facilitate desired behaviors; planning and commitment devices can be used to improve self-control; and default rules can produce positive outcomes even for people who fail to act. Over the past decade, behavioral economics has gained popularity in the private and public sectors. For example, a large Midwestern utility firm encouraged employees to write down a specific day and time for when they planned to get a flu shot, an “implementation intentions prompt,” which increased the percentage of employees who received the influenza vaccine.<sup>†</sup> In the public sector, the UK Cabinet Office’s Behavioural Insights Team led an evaluation which determined that mobile phone text messages were effective at prompting people to pay their outstanding fines.<sup>‡</sup> The BIAS team previously partnered with the Oklahoma Department of Human Services to increase the percentage of clients who renew their child care subsidy by the renewal deadline. The BIAS team designed and evaluated behaviorally informed, low-cost outreach to clients and their child care providers and found that the provider outreach increased the on-time renewal rate by 3 percentage points, compared with a rate of 21 percent for the control group of clients who did not receive outreach directly or through their providers.<sup>§</sup>

These examples are some of the recent applications of behavioral economics to human behavior. Behavioral tweaks — or “nudges,” as they are frequently called — are often meant to be limited in scope. As the prominent psychologist Daniel Kahneman states, behavioral economics is “characterized by achieving medium-sized gains by nano-sized investments.”<sup>||</sup> These types of interventions are not always expected, or intended, to achieve enormous impacts or attain a system overhaul. Instead, they are meant to be responsive to behavioral tendencies and to foster change at relatively low cost and effort. For a more detailed overview of behavioral economics, see *Behavioral Economics and Social Policy: Designing Innovative Solutions for Programs Supported by the Administration for Children and Families*.<sup>#</sup>

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<sup>\*</sup>For an overview of behavioral science, see Kahneman (2011).

<sup>†</sup>Milkman et al. (2011).

<sup>‡</sup>Haynes et al. (2013).

<sup>§</sup>Mayer, Cullinan, Calmeyer, and Patterson (2015).

<sup>||</sup>Singal (2013).

<sup>#</sup>Richburg-Hayes et al. (2014).

In an effort to increase collections, child support agencies have implemented many innovative practices. One key example is income withholding, which was federally mandated in 1994 and changes a noncustodial parent’s payment method from requiring action (manually making a payment each month) to allowing for inaction (since payment is automatically deducted from any wages). Child support agencies issue income withholding orders to employers whenever possible, and employers are required to comply, making withholding the default collection method for most parents and the source of 75 percent of all collections nationwide in fiscal year 2014.<sup>6</sup> However, some noncustodial parents do not qualify for income withholding, typically because they are self-employed, employed “under the table,” or unemployed. Parents not enrolled in income withholding have to actively initiate payments using another method.

Collecting child support can be challenging, even when agencies are able to use tools such as income withholding. Some noncustodial parents lack the ability to pay their full child support amount as ordered, in part because child support agencies and courts sometimes have little or no information about the parent’s ability to provide financial support and therefore may choose to impute the information and overestimate a parent’s ability to pay.<sup>7</sup> In other instances, they have information about a noncustodial parent’s past employ-

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<sup>6</sup> Office of Child Support Enforcement (2015a).

<sup>7</sup> Income is also imputed in some jurisdictions if the court or child support agency determines that the noncustodial parent is voluntarily unemployed or underemployed.

ment and income, but it may not reflect a parent's current financial situation or ability to make payments in the future, or it might indicate that the parent has a limited ability to pay. Child support agencies and courts frequently assign these types of parents order amounts at or above a certain threshold, for example, assuming these parents can work full time at a minimum wage job. But past research suggests that over 20 percent of noncustodial parents are impoverished, and many face significant employment barriers, including a history of incarceration, a lack of a high school diploma, and limited recent work experience.<sup>8</sup>

## Previous BIAS Research on Child Support Collections in Franklin County

In 2012, the BIAS project began working with another Ohio child support agency, the Franklin County Child Support Enforcement Agency, and found that over half of the agency's parents who owed child support did not have a recent history of making payments via income withholding and that, moreover, many of these parents were not being sent regular reminders to pay their child support obligation.<sup>9</sup> The BIAS team hypothesized that sending these parents reminders to pay could increase the occurrence and amount of their payments. In addition, the team hypothesized that the existing payment reminder notice for those already being sent a notice could be improved to generate additional payments.

In the first of two tests in Franklin County, the BIAS team found that reminders produced a modest but statistically significant increase in the percentage of parents who made at least one child support payment over a period of four months.<sup>10</sup> Compared with a payment rate of 48.5 percent for the parents in the control group who were sent no payment reminder, 51.5 percent of noncustodial parents who were sent a reminder made a payment. However, there was no statistically significant increase in overall collections, possibly an indication that the additional payments were small. The test included multiple types of reminders (payment reminder notices sent mid-month or late-month, robocalls, or combinations of the two), and all of them had a positive effect on the percentage of parents making payments compared with parents receiving no reminder at all. However, no one form of reminder was more successful at increasing the likelihood that parents would make payments or the amount of those payments compared with the others.

In the second test in Franklin County, the BIAS team found no statistically significant difference in the percentage of parents paying or the dollar amount of the payments they made between those who were sent a redesigned payment reminder notice and those who were sent the existing payment reminder notice. These findings are consistent with the finding from the study's first test that the form of a reminder has little or no effect, in contrast to the effect of a reminder itself.

During the Franklin County tests, the BIAS project recruited the Cuyahoga Job and Family Services' Office of Child Support Services (OCSS) to participate in additional child support collection tests. After reviewing preliminary findings for Franklin County in the summer of 2014, the BIAS team was interested in evaluating new interventions, which included text message reminders, a newly redesigned payment reminder notice incorporating additional insights from behavioral science, and targeted mail outreach to parents with new orders. In addition, the research team hoped to use longer timeframes and larger sample sizes to improve the reliability and usefulness of the findings in Cuyahoga County, particularly for the outcome of payment amounts per parent. In order to make these interests a priority, and in light of the Franklin County findings, the team opted not to test robocalls, the timeframe of reminders, or combinations of reminders (for example, notice and robocall) in Cuyahoga County.

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8 Sorensen and Zibman (2000).

9 Baird et al. (2015).

10 Statistical significance indicates that the impact can most likely be attributed to the intervention rather than chance.

## Understanding the Process: Behavioral Diagnosis and Design

The BIAS project uses a specific method called “behavioral diagnosis and design” to try to improve program outcomes through the application of insights from behavioral science.<sup>11</sup> As depicted in Figure 1, the behavioral diagnosis and design process comprises four phases and is ideally iterative. The Cuyahoga County research is an iteration of the Franklin County study.

The first phase in behavioral diagnosis and design is to define the problem in terms of the desired outcome, without presuming particular reasons for the problem. The BIAS team relies on a variety of data when defining the problem to mitigate *a priori* assumptions about how systems work or how the people within them function. Next, in the diagnosis phase, the BIAS team collects both qualitative and quantitative data to identify “bottlenecks,” or barriers to program success. The team uses the data to guide hypotheses about the behavioral reasons for program outcomes.

During the third or design phase, the BIAS team uses theories about why bottlenecks are occurring to help develop intervention ideas informed by behavioral science research. It is important to have a clear theory for why interventions might have an impact on specific behaviors because an intervention may be effective at addressing one behavioral issue but have no effect on another. During the final or test phase, behavioral interventions are evaluated using rigorous scientific methods. The behavioral diagnosis and design process aims to connect the problem, the behavioral bottleneck, and the design solution together in a coherent way.<sup>12</sup> In March 2014, the BIAS project initiated the process with OCSS in Cuyahoga County.

## Payment Process for Existing Child Support Orders

The Office of Child Support Services manages the child support program in Cuyahoga County, an urban county that includes over 1.2 million people living in Cleveland and the surrounding communities.<sup>13</sup> Cuyahoga County’s poverty rate is over 19 percent, higher than state and national averages, and its median household income, about \$43,800, is well below state and national averages.<sup>14</sup>

### Define: Increasing Child Support Payments

OCSS oversees more than 70,000 cases in which a noncustodial parent owes child support, and the agency collects approximately 60 percent of these parents’ current child support obligations (more than \$157 million annually).<sup>15</sup> This collection rate is lower than the state and national averages, 67 and 64 percent respectively, perhaps because Cuyahoga County’s population is more economically disadvantaged than the state and national averages.<sup>16</sup> OCSS’s problem of interest was increasing child support collections. The three reminder tests described in this section all focused on trying to increase the percentage of parents with existing child support orders who made payments and the total amounts of their payments.

### Diagnose: Why Some Noncustodial Parents with Existing Orders Fail to Pay

The child support system in Cuyahoga County shares many similarities with the system in Franklin County. Both counties serve relatively large, urban, and disadvantaged populations and operate under the same state child support laws and procedures. To determine whether the behavioral diagnosis work completed earlier in Franklin County was also applicable to Cuyahoga County, the BIAS team analyzed data on noncustodial parents’ payment activity, conducted focus groups and interviews with parents and agency staff, and

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11 ideas42, an early partner in the BIAS project, developed a methodology called “behavioral diagnosis and design” for applying insights from behavioral economics to improve program outcomes. The process presented in this document, also called behavioral diagnosis and design, is a version that has been refined for the BIAS project.

12 For a more detailed description of behavioral diagnosis and design, see Richburg-Hayes et al. (2014).

13 U.S. Census Bureau (2015).

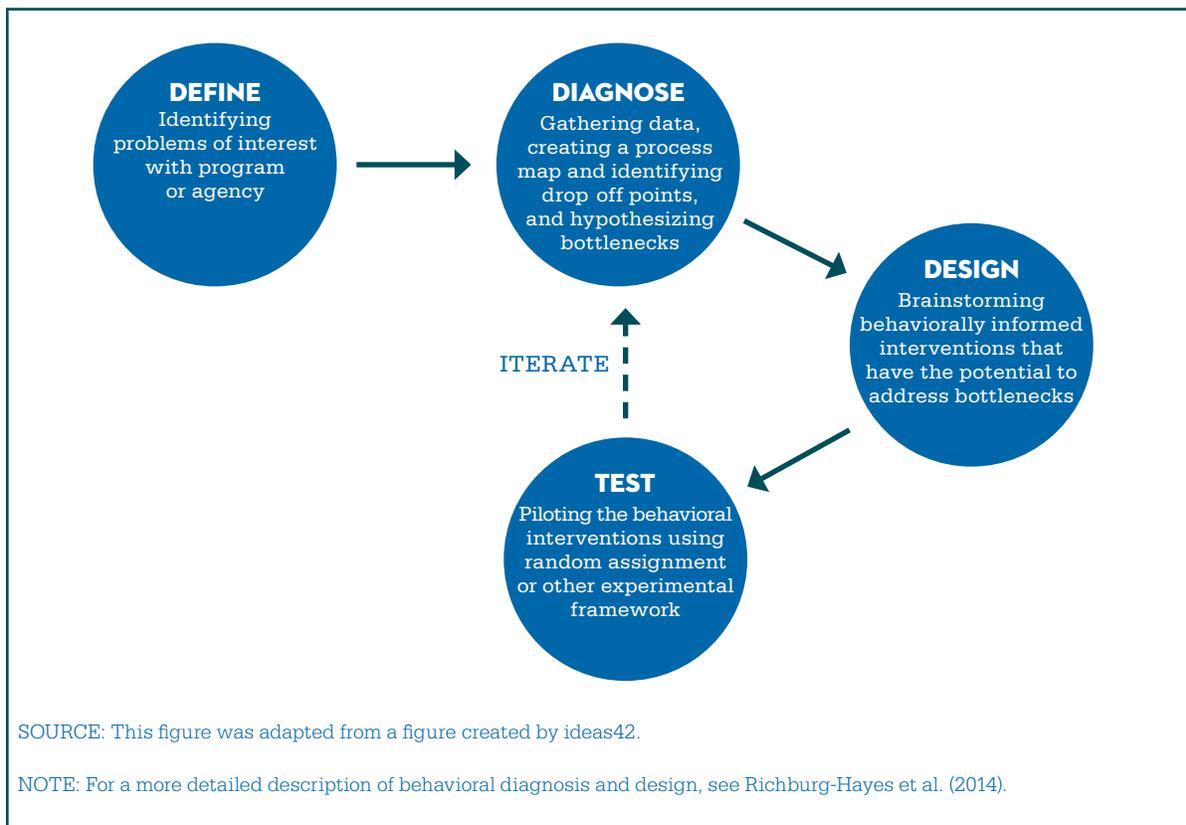
14 U.S. Census Bureau (2015).

15 Correspondence with site (August 8, 2014; August 18, 2014).

16 Correspondence with site (August 8, 2014); Office of Child Support Enforcement (2015b).

## FIGURE 1 THE BEHAVIORAL DIAGNOSIS AND DESIGN PROCESS

CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES



reviewed a variety of forms and documents relevant to the payment process in Cuyahoga County. The team determined that the payment process and context in Cuyahoga County is similar to that originally found in Franklin County.

A large percentage of total payments (that is, the total dollar amount collected) are made via income withholding in both counties (70 percent), even though a much smaller percentage of parents make payments through income withholding (38 percent in Cuyahoga and 41 percent in Franklin).<sup>17</sup> The reasons for this disparity are that parents who are enrolled in income withholding on average pay a higher percentage of their child support obligations than parents who do not, and those with regular employment may potentially have higher obligation amounts. OCSS and other agencies generally try to establish income withholding orders because they are effective at generating collections. For example, OCSS regularly opens withholding orders based on limited information, using employment information reported by custodial parents and other sources that sometimes turns out to be incorrect. In other cases, income withholding orders are not closed after a parent leaves a job because the parent or employer does not inform the child support agency. As a result, many parents have open income withholding orders that do not produce payments.

Parents with income withholding orders, even orders that are not generating payments, are rarely sent payment reminders because they are expected to be making payments automatically through withholding.<sup>18</sup>

<sup>17</sup> Correspondence with the site (June 8, 2015); Baird et al. (2015).

<sup>18</sup> The specific criteria for *being sent* a notice from the Child Support Payment Center are: (1) the noncustodial parent's case must be open and active; (2) the case/order must be complete and have an active financial obligation with current orders or arrears due that are greater than zero; (3) the billing for the case must not be suppressed. Cases can be suppressed from being sent a notice by supervisors for the following reasons: invalid address, case closure pending, ordered charging suspended, death, emancipation, among others; (4) the income withholding has been end-dated or there is no income withholding; (5) the third party numbers (Ohio database unique identifier) do not match on the income withholding and child support individual employer information; (6) the case/order must not be interstate initiating (Cuyahoga County cannot be requesting assistance from another state in enforcing the order); and (7) the parent must have a valid address.

Almost 17,000 noncustodial parents in Cuyahoga County are not making payments through income withholding and are not being sent any reminder to pay.<sup>19</sup> This number is similar to that found in Franklin County.

The fact that some noncustodial parents are unable to pay and must overcome significant barriers in order to develop the ability to pay hinders any attempt to increase child support collections.<sup>20</sup> Similarly, some noncustodial parents have deep-seated reasons for why they are unwilling to make payments. Noncustodial parents who owe support for a child receiving public assistance through Temporary Assistance for Needy Families may be particularly reluctant to pay because Ohio keeps any child support payments as reimbursement for the public aid.<sup>21</sup> Additionally, interviews with noncustodial parents suggest that they may be in conflict with the custodial parent, dislike the custodial parent's perceived spending habits, resent the government's interference in what they consider to be a private matter, be uncommitted to the financial well-being of their nonresident child, or feel they provide for their child in ways the government does not recognize.

These broader issues lie outside the BIAS project's scope, which focuses on low-cost, "light-touch" behavioral interventions and quick evaluations that do not require significant, additional resources. In Franklin County, the BIAS team identified six bottlenecks associated with the child support payment process that were potentially amenable to behavioral interventions for parents with the ability and general willingness to pay, as well as a number of hypothesized behavioral concepts associated with those bottlenecks. The BIAS team believed that these bottlenecks and behavioral concepts were also present in Cuyahoga County. The behavioral map in Figure 2 summarizes the bottlenecks and associated behavioral concepts.

### Bottleneck 1: Many Noncustodial Parents Do Not Receive Any Reminder to Pay.

Noncustodial parents have many interests competing for their time and as a result may be **inattentive**. Consequently, parents may be more likely to forget their obligations in the many cases when the agency does not send them payment reminders. Forgetting to perform an intended action at the right time, such as paying child support every month, is known as **prospective memory** failure.

### Bottleneck 2: In Cases When a Reminder Is Sent, the Current Reminder May Go Unread or Be Confusing or Unhelpful.

While some parents are sent reminders, the current payment notice comes from the state's payment center, Child Support Payment Central, a potentially unfamiliar entity. Parents might be confused and perceive the notice as less **salient**, or attention grabbing, than they would if the notice came directly from the more familiar OCSS. When parents realize that the notice relates to their child support obligations, they may exhibit the **ostrich effect** and try to ignore the notice in an attempt to avoid potentially upsetting information.

The current notice includes potentially confusing language and difficult-to-find instructions, which may create a high **cognitive load**, or demand on a person's mental resources. The notice also lists the total arrears, or amount of past due child support, which may trigger a strong emotional reaction such as fear or hopelessness, also known as an **affective response**. Finally, because the notice lacks a specific due date, it may also exacerbate the **planning fallacy**, whereby an individual struggles to make a realistic plan.

### Bottleneck 3: Environmental Cues May Cause a Noncustodial Parent to Actively Choose Not to Pay His or Her Child Support.

Similar to child support agencies nationwide, OCSS has historically focused on penalties and enforcement actions for parents who fail to pay. This largely negative **frame**, or the way in which information is presented, may make parents less willing to pay child support. While some OCSS staff try to positively engage with noncustodial parents, this practice is not widespread and requires a culture change among child support staff who, until recently, viewed themselves more like collections officers than caseworkers. Noncustodial

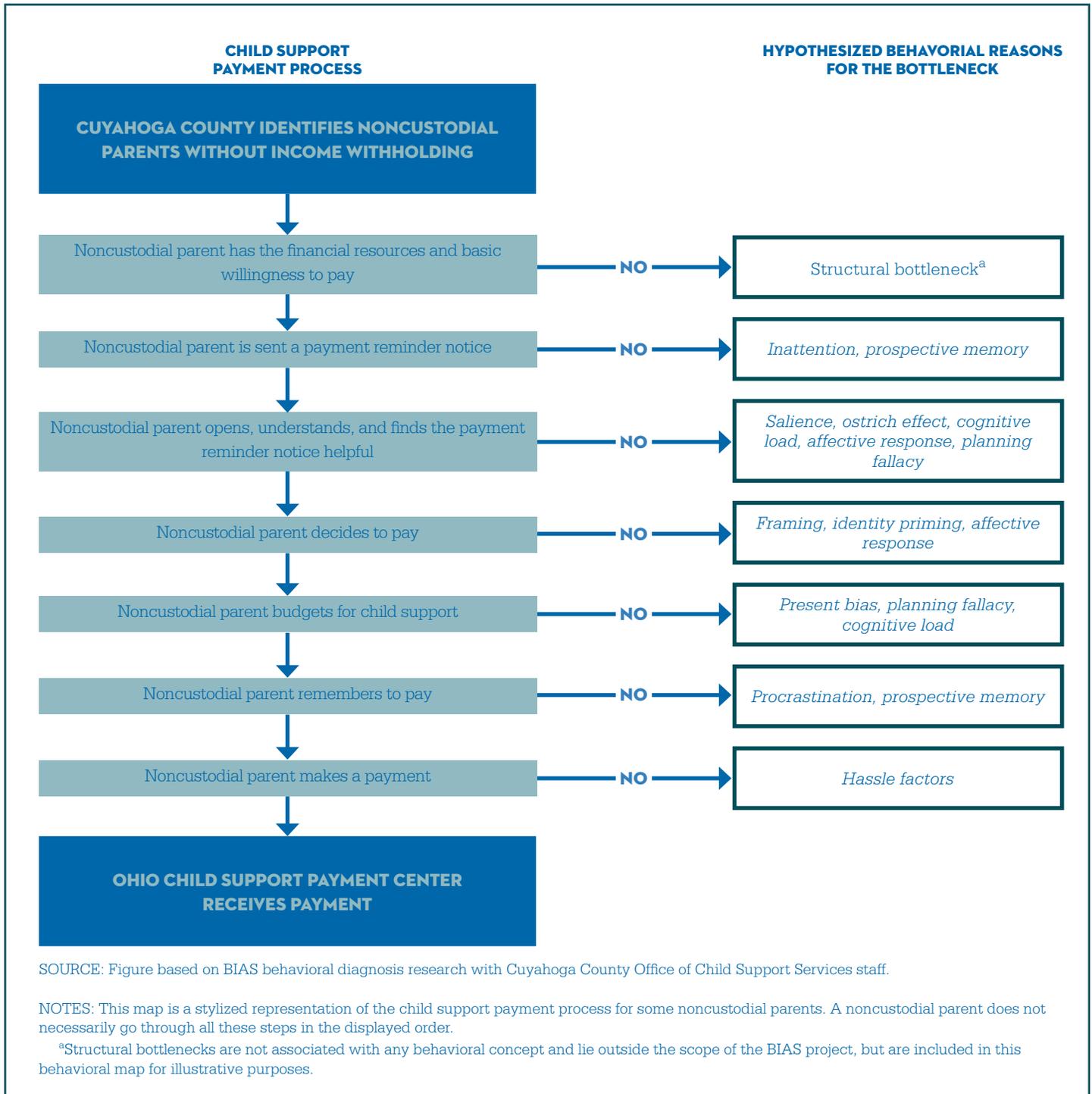
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19 State reminder notices are sent to at least 9,000 parents without income withholding orders in Cuyahoga County.

20 Sorensen and Zibman (2000).

21 Government Accountability Office (2011).

**FIGURE 2**  
**BEHAVIORAL MAP FOR MAKING A CHILD SUPPORT PAYMENT**  
**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**



parents may reject the “deadbeat dad” stereotype if they feel it does not match their circumstances or actions and therefore may resent when OCSS staff, the legal system, custodial parents, the media, and the general public do not adequately recognize them when they do make significant financial and other contributions to their children’s well-being.<sup>22</sup> **Identity priming** refers to the idea that individuals have multiple identities and that their thinking and actions are shaped by which identity or identities are most salient at a given point in time. In this case, the child support system may counterproductively prime noncustodial parents to think of themselves as debtors when receiving child support communications, and not as parents committed to supporting their children. Similarly, parents may react emotionally to the notice if, for example, it fails to clearly express that the parent’s financial obligation is intended to support the child.

#### **Bottleneck 4: Budgeting for Large Expenses Like Child Support May Be Difficult.**

Behavioral science has shown that people have limited self-control and struggle to carefully make and follow through on their plans, factors critical to repeatedly making timely child support payments.<sup>23</sup> People are generally **present biased**, giving more weight to present concerns (for example, food and rent) than future ones (for example, paying child support at the end of the month to avoid enforcement actions). They are also prone to errors in planning (in this context perhaps by assuming they will be able to make a child support payment at some point, but then realizing at the end of the month that they do not have sufficient funds). They may also be poor decision makers when they are experiencing financial and other forms of stress. Exacerbating those issues, interviews with parents suggest that some do not know that, in the eyes of child support agencies, making a partial payment is better than making no payment at all.

#### **Bottleneck 5: Even After Being Sent a Reminder, Remembering to Actively Make a Payment May Be Challenging.**

Noncustodial parents not enrolled in income withholding may **procrastinate** and put off making a payment early in the month, and then continue to delay or forget to take action until they have missed the deadline.

#### **Bottleneck 6: The Alternative Payment Methods Available to Parents Are Burdensome.**

Unless a parent is paying through income withholding, there are **hassle factors** associated with making payments. Payment options that do not involve visiting the OCSS office come with additional fees (for example, online credit card payments carry an \$11 fee per transaction) or require additional time and effort from the noncustodial parent, such as obtaining a check or money order. Notably, the current state notice does not include a postage-paid return envelope, which creates an extra burden for parents who wish to mail in their payments.

### **Design: Reminder Interventions**

The BIAS team explored making structural changes to the payment process, such as eliminating the online credit card fee or allowing parents to make in-person, cash payments at the OCSS office. Those types of changes were not operationally feasible within the budget and scope of the project. Instead, based on the hypothesized bottlenecks and associated behavioral concepts, the prior research in Franklin County, and behavioral science studies that have found reminders to be successful tools for spurring action in a variety of contexts, the BIAS team hypothesized that:<sup>24</sup>

- Mailed reminder notices might increase payments among parents not already being sent reminders.

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<sup>22</sup> Edin and Nelson (2013).

<sup>23</sup> Mullainathan and Thaler (2000).

<sup>24</sup> Cadena and Schoar (2011); Green (2004); Karlan, McConnell, Mullainathan, and Zinman (Forthcoming); Lantz et al. (1995); Rodgers et al. (2005); Sanders and Kirkman (2014); Haynes et al. (2013); Chande et al. (2015).

- Text message reminders might be an alternative way to increase payments for parents not already being sent reminders, and might do so to a different degree than mailed reminder notices.
- A redesigned reminder notice using behavioral insights might increase payments, relative to the existing notice, for parents already being sent the state notices.

To test those hypotheses in Cuyahoga County, the BIAS team worked with OCSS to design multiple reminder interventions and evaluate each one using a randomized controlled trial.<sup>25</sup> Figure 3 illustrates the research design and sample sizes for the three reminder tests. While the research hypotheses and tests are similar to those used in the Franklin County study, the iterative tests in Cuyahoga County allowed the BIAS team to explore related but new research questions, more rigorously address some of the research questions from the earlier evaluation, and study whether the original findings replicate in another setting. The reminders tested in Cuyahoga County include a new, redesigned notice and text messages.

Appendix Figure A.1 displays the existing state notice and highlights components that the BIAS team identified as possible areas for improvement. While the redesigned notice used in Franklin County had no effect, relative to the state notice, the BIAS team hoped that a new, redesigned notice incorporating additional behavioral insights might generate impacts in Cuyahoga County, relative to the state notice. The team retained a number of design elements from the redesigned notice used in Franklin County, such as removing the total arrearages due, including a postage-paid return envelope, using a recognizable agency logo (OCSS) instead of the state’s payment center logo, simplifying the language, and setting a clear due date, but also included additional design components.

Figure 4 shows the new notice that the BIAS team in Cuyahoga County created and mailed all noncustodial parents in Tests 1, 2, and 3 assigned to program groups. The figure emphasizes the following design components, which the redesigned notice used in Franklin County did not feature:

- In an attempt to leverage a positive affective response, the Cuyahoga County notice lists the child(ren) for whom the parent owes support. Adding the child’s name may reinforce the recipient’s identity as a parent and emphasize that the purpose of the payments is to support a child. This framing may also redirect the focus of the payment away from the custodial parent.
- The notice uses an **implementation prompt** to try to help parents overcome the **intention-action gap**. People often choose to do something in the abstract, but struggle to follow through. The notice thus asks parents to select the payment option they will use. By instructing parents to select a payment method and providing clear instructions for making that payment, the new notice aims to more effectively help parents take action. This change is designed to reduce hassle factors and counteract procrastination, present bias, and the planning fallacy.
- The notice clarifies that parents who are unable to make a complete payment should make a partial payment and contact OCSS. Those who are unable to pay their full child support order amount might potentially make at least a partial payment.

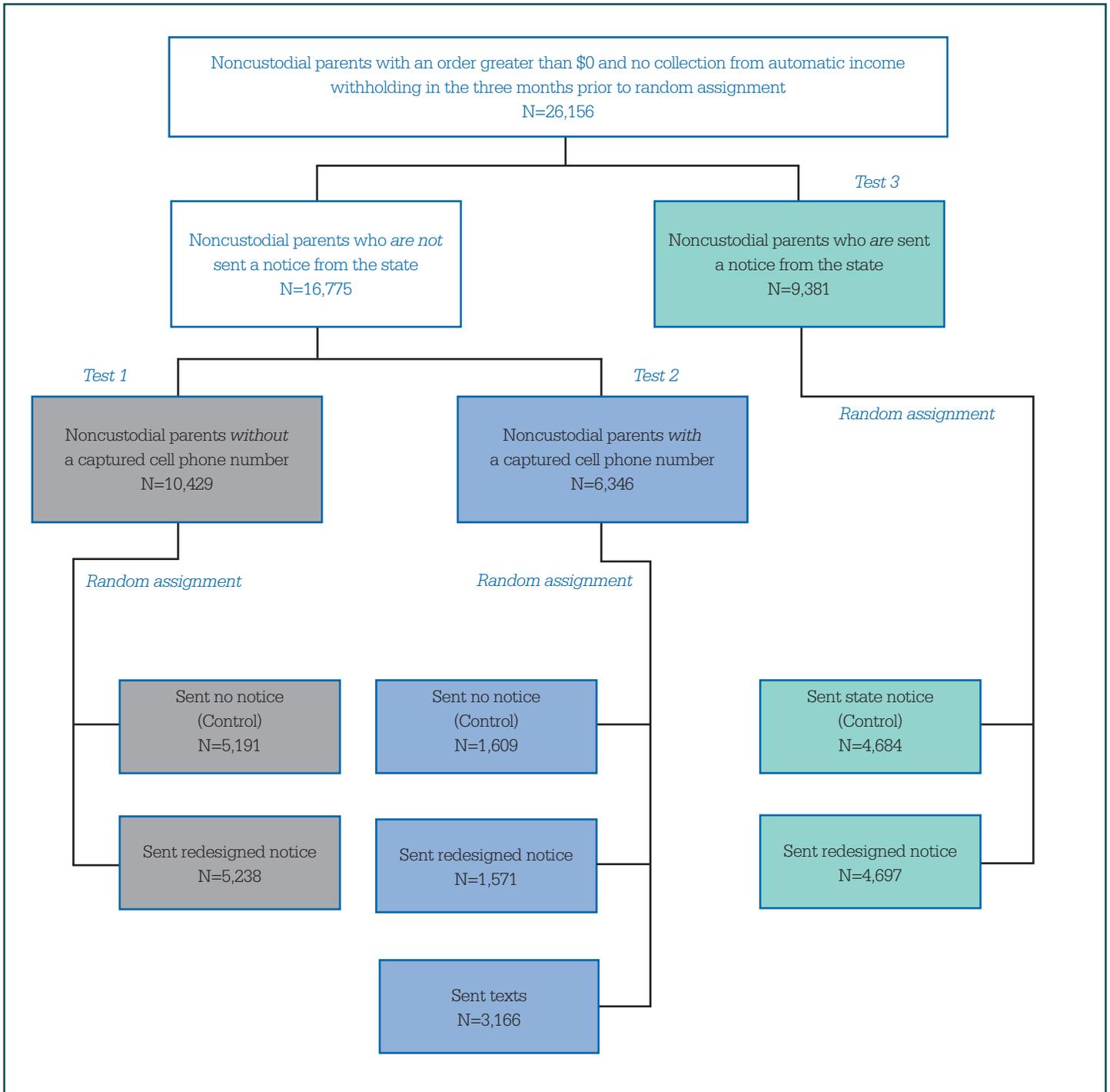
In addition, parents in a Test 2 program group were sent two text messages per month. The reminders were designed to be salient (by being delivered through cell phones, which people frequently have on hand, instead of through the mail), create a sense of urgency, and harness **reason-based choice** — the idea that providing people with explicit explanations for certain choices helps them justify making those decisions. The text messages read:

First reminder: *Your child support payment is due on XX/XX. Payment is important to support your child and avoid debt. Can't pay in full? Pay what you can, call us 2164435100*

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25 Baseline data were collected in August and September 2014 for the three reminder tests, as well as the welcome letter test described later (Test 4). This information can be found in Appendix Table A.2. There were no significant differences between tests’ research groups at baseline, suggesting that random assignment successfully generated comparable research groups.

**FIGURE 3**  
**RESEARCH DESIGN: REMINDER TESTS**  
**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**



**FIGURE 4**  
**BIAS CUYAHOGA COUNTY PAYMENT REMINDER NOTICE**  
**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**



Cuyahoga County  
**Job and Family Services**

Office of Child Support Services

Dear [NCPName],

This notice provides the amount of child support you owe for [KidsAll]:

**Your Child Support Information**

Monthly Child Support	[MonChd]	SETS Case Number:	[SETSTNo]
Monthly Back Support Payment	[BackSup]	Order Number:	[OrdrNo]
Administrative Fees	[Fee]	Obligee/Custodial Parent:	[CPName]
	_____	Child(ren):	[Kids1] [Kids2]
<b>Total Monthly Obligation</b>	<b>[AmtDue]</b>	<b>Payment due by</b>	<b>[DueDate]</b>

**How To Make A Payment**

*Select the method below that you will use and follow the directions in the blue box.*

**Check / money order**

Use the tear-off portion below and the enclosed paid-postage envelope. **This is the fastest method to get a payment processed!**

**Cash**

Make your payment at the **Cuyahoga County Administration Headquarters**, 2079 East 9<sup>th</sup> Street, Cleveland.

**Checking / debit account**

Make your payment at [www.ExpertPay.com](http://www.ExpertPay.com).

**Credit card**

Make your payment at [www.e-ChildsPay.com](http://www.e-ChildsPay.com).

For additional information: Self-service web portal: [www.ifs.ohio.gov/ocs](http://www.ifs.ohio.gov/ocs) | Web: <http://cifs.cuyahogacounty.us>  
 Phone: (216) 443-5100 | Toll free in Ohio: 1-800-443-1431 | In-Person: 1640 Superior Ave., Cleveland

If you cannot pay the full amount this month, pay as much as you can. All unpaid support will become debt that you still owe. Contact our office immediately so we can discuss your options.

***Thank you for supporting your child.***

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Please return this portion with your payment

Obligor Name:	[NCPName]	<b>Amount Due</b>	
SETS/Order Number:	[SETSTNo]/[OrdrNo]	<b>Payment due by</b>	
		Amount Enclosed	\$ _____

[Name]  
 [Address1]  
 [Address2]  
 [CityStZip]

MAKE CHECKS PAYABLE TO:  
**Ohio Child Support  
 Payment Central**  
 P.O. Box 182372  
 Columbus, OH 43218-2372

NUDGES FOR CHILD SUPPORT 11

Second reminder: *Your child support payment is due in X days. Pay on time to avoid penalties. Call us at 2164435100 if you can't pay in full. Thank you for supporting your child*

Table 1 provides a matrix that connects the hypothesized relationships between the proposed bottle-necks, behavioral concepts, and specific components of the interventions for the reminder tests.

### **Test 1: Do Reminders Lead to More Payments Relative to No Reminders?**

Test 1 included parents who had a current child support obligation, were not currently paying through income withholding, were not being sent any state payment reminder notice, and did not have a cell phone number on file. Over 10,000 parents were randomly assigned to either a control group that was sent no payment reminder (50 percent of the sample) or a program group that was sent the redesigned notice (50 percent). Program group notices were mailed on approximately the fifteenth of each month. This test ran from September 2014 to January 2015, and outcomes were only tracked for the intervention months. The test sought to answer the question:

- Does sending behaviorally informed reminder notices increase the likelihood that parents will make payments and the amount of those payments, relative to not sending any notices?

Compared with the earlier Franklin County study, this test extended the research period by a month, the maximum length of time deemed operationally feasible. In addition, it only included a control group and one reminder condition, or program group, instead of the control group and five differing reminder conditions used in Franklin County. These adjustments were designed to increase Test 1's statistical power to detect the impact of a reminder on outcomes such as total payment amounts and payment trends across time.

### **Implementation and Main Impacts**

Implementation went as planned and parents in the program group were sent a notice each month. While 16 percent of program group members in Test 1 had a mailing returned during the study, half of these members had their addresses updated after the return, increasing the possibility that they would receive subsequent mailings.

Table 2 shows that the reminder notice had a significant impact on the likelihood of parents making a payment during the study period. While 38.2 percent of noncustodial parents in the control group made a payment, 40.7 percent of those sent a reminder notice made a payment, rounding to a 2.4 percentage point increase. There was also a small, but significant positive impact on the number of months in which a payment was made. This increase in the likelihood of payments did not translate into a significant difference in the amount paid per parent during the study period. The findings for this partial replication test are consistent with those found in Franklin County, both in magnitude and statistical significance.

### **Test 2: Do Text Message or Mailed Reminders Lead to More Payments?**

Test 2 included parents who had a current child support obligation, were not currently paying through income withholding, were not being sent any state payment reminder notice, and had a cell phone number on file. Over 6,000 parents were randomly assigned to either a program group that was sent two text message reminders per month (50 percent), a program group that was mailed the redesigned payment reminder notice (25 percent), or a control group that was sent no notice (25 percent of the sample). The notices were mailed on approximately the fifteenth of each month, while text message reminders were sent just over a week before the end of the month and then again approximately three days before the end of the month. This test ran from, and outcome data were collected for, September 2014 to January 2015. The test sought to answer the question:

- Does sending text message reminders increase the likelihood that parents will make payments and the amount of those payments, relative to mailing parents reminder notices or providing no reminder at all?

**TABLE 1**  
**HYPOTHESIZED RELATIONSHIPS OF BOTTLENECKS, BEHAVIORAL CONCEPTS, AND INTERVENTION COMPONENTS OF THE REMINDER TESTS**  
**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**

HYPOTHESIZED BOTTLENECKS AND BEHAVIORAL CONCEPTS	PROPOSED INTERVENTION COMPONENTS <sup>a</sup>			
	Use Reminders	Leverage Affective Response	Prompt Implementation	Reframe Messaging
<b>MANY NONCUSTODIAL PARENTS DO NOT RECEIVE ANY REMINDER TO PAY.</b>				
Inattention	✓			
Prospective memory	✓			
<b>IN CASES WHEN A REMINDER IS SENT, THE CURRENT REMINDER MAY GO UNREAD OR BE CONFUSING OR UNHELPFUL.</b>				
Saliency			✓	
Ostrich effect		✓		✓
Cognitive load			✓	✓
Affective response		✓		✓
Planning fallacy			✓	✓
<b>ENVIRONMENTAL CUES MAY CAUSE A NONCUSTODIAL PARENT TO ACTIVELY CHOOSE NOT TO PAY HIS OR HER CHILD SUPPORT.</b>				
Framing		✓		✓
Identity Priming		✓		
Affective response		✓		
<b>BUDGETING FOR LARGE EXPENSES SUCH AS CHILD SUPPORT MAY BE DIFFICULT.</b>				
Present bias			✓	✓
Planning fallacy			✓	✓
Cognitive load			✓	✓
<b>EVEN AFTER BEING SENT A REMINDER, REMEMBERING TO ACTIVELY MAKE A PAYMENT MAY BE CHALLENGING.</b>				
Procrastination			✓	
Prospective memory	✓			
<b>THE ALTERNATIVE PAYMENT METHODS AVAILABLE TO PARENTS ARE BURDENSOME.</b>				
Hassle factors			✓	

NOTES: Behavioral concepts cannot be definitively identified, but rather are hypotheses derived from the behavioral diagnosis and design process that may explain behavioral bottlenecks.

<sup>a</sup>The following are examples of intervention components in the Cuyahoga County study:

*Use reminders:* Send text message payment reminders to noncustodial parents.

*Leverage affective response:* Include the child's name at the top of the payment reminder.

*Prompt implementation:* Ask the parent to select a payment method and then provide them with clear payment instructions.

*Reframe messaging:* Include the message that the agency will accept partial payments.

**TABLE 2**  
**CHILD SUPPORT PAYMENT OUTCOMES: SEPTEMBER 2014 – JANUARY 2015,**  
**TEST 1: PAYMENT REMINDERS FOR NONCUSTODIAL PARENTS NOT**  
**CURRENTLY BEING SENT A NOTICE WITH NO CELL PHONE**  
**NUMBER ON FILE**

**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**

<b>OUTCOME</b>	<b>PROGRAM GROUP</b>	<b>CONTROL GROUP</b>	<b>DIFFERENCE</b>	<b>P VALUE</b>
Any payment made (%)	40.7	38.2	2.4***	0.006
Total amount paid (\$)	334	313	21	0.149
Number of months paid	1.4	1.3	0.1*	0.083
<i>Sample size</i>	5,224	5,180		

SOURCE: MDRC calculations using Cuyahoga County Office of Child Support Services data.

NOTES: A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Estimates are adjusted for noncustodial parent baseline characteristics.

This test builds upon the Franklin County research by using a new reminder medium, text messages. Given the limited number of cell phone numbers available, the research team did not use a bundled condition (text messages and reminder notices) because the bundled conditions in Franklin County (robocall and reminder notices) were not significantly more effective than single-medium conditions. The 50:25:25 ratio allowed for more precise estimates of the text message mean outcomes without sacrificing power in the contrast between the text message research condition and each of the other two conditions.

### **Implementation and Main Impacts**

The team conducted quality assurance testing of the text messaging system and confirmed that the messages were successfully sent each month to the randomly assigned sample members in accordance with the implementation plan. The text messages in the first month prompted a variety of responses from a small proportion of those texted, resulting in additional communications with some noncustodial parents when OCSS followed up on those responses. Ninety-four percent of program group members received successful electronic transmission of all texts sent to their phone number. Mailings went out to the randomly assigned sample members, and while 16 percent of that subsample had the mail returned to OCSS, over half of those addresses were updated to increase the likelihood that subsequent mailings would reach them.

Table 3 displays the impact findings for Test 2, which are consistent with those of Test 1. Text reminders had a significant impact on the likelihood of making a payment during the study period, increasing it by 2.5 percentage points. Those who were sent texts made payments at a higher rate, 49.8 percent, than those in the control group, only 47.3 percent. There was also a small but significant positive impact on the number of months in which a payment was made. However, these impacts did not translate into a significant difference in the dollar amount paid per parent.

Paper notices were as effective as text messages for parents with cell phone numbers on file with OCSS. There was no significant difference in the overall rate of payment or amount paid per parent between the group that was sent text messages and the group that was mailed paper reminders. When compared with the control group, the impacts of paper reminders are of similar magnitude to those impacts seen in Test 1 and in Franklin County.

**TABLE 3**  
**CHILD SUPPORT PAYMENT OUTCOMES: SEPTEMBER 2014 – JANUARY 2015,**  
**TEST 2: PAYMENT REMINDERS FOR NONCUSTODIAL PARENTS NOT CURRENTLY**  
**BEING SENT A NOTICE WITH A CELL PHONE NUMBER ON FILE**

**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**

<b>TEXT MESSAGES VS. NO REMINDER</b>				
<b>Outcome</b>	<b>Text Messages</b>	<b>Control Group</b>	<b>Difference</b>	<b>P-Value</b>
Any payment made (%)	49.8	47.3	2.5*	0.070
Total amount paid (\$)	506	510	-4	0.903
Number of months paid	1.6	1.5	0.1**	0.024
<i>Sample size</i>	<i>3,156</i>	<i>1,604</i>		

<b>REDESIGNED NOTICE VS. NO REMINDER</b>				
<b>Outcome</b>	<b>Redesigned Notice</b>	<b>Control Group</b>	<b>Difference</b>	<b>P-Value</b>
Any payment made (%)	50.5	47.3	3.2**	0.045
Total amount paid (\$)	516	510	6	0.879
Number of months paid	1.6	1.5	0.1**	0.039
<i>Sample size</i>	<i>1,562</i>	<i>1,604</i>		

<b>TEXT MESSAGES VS. REDESIGNED NOTICE</b>				
<b>Outcome</b>	<b>Program Group</b>	<b>Control Group</b>	<b>Difference</b>	<b>P-Value</b>
Any payment made (%)	49.8	50.5	-0.7	0.610
Total amount paid (\$)	506	516	-10	0.768
Number of months paid	1.6	1.6	0.0	0.894
<i>Sample size</i>	<i>3,156</i>	<i>1,562</i>		

SOURCE: MDRC calculations using Cuyahoga County Office of Child Support Services data.

NOTES: A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Estimates are adjusted for noncustodial parent baseline characteristics.

**Test 3: Do Behaviorally Informed Reminders or Standard Reminders Lead to More Payments?**

Test 3 involved parents who had a current child support obligation, were not currently paying through income withholding, and *were being sent* a state payment reminder notice. Over 9,000 parents were randomly assigned to either a control group that continued receiving the current state notice (50 percent of the sample) or a program group that was mailed the redesigned payment reminder notice (50 percent). State notices were mailed on the last business day of the preceding month for which the notice was intended. For example, the notice for child support payments due in October 2014 was mailed on

approximately September 30, 2014. OCSS suppressed the state notices for the program group for the duration of the test. As a replacement, OCSS sent the program group the redesigned payment reminder notice created by the BIAS team. This notice was mailed on approximately the fifteenth of each month and included a postage-paid envelope. This test was intended to start in September, but OCSS needed additional preparation time to suppress the state notice for the program group. Instead, the test ran from October 2014 to January 2015, and outcomes were only measured for the intervention months. The test was designed to answer the question:

- Does sending a behaviorally informed payment reminder notice increase the likelihood that parents make payments and the amount of those payments, relative to sending parents the state reminder notice?

While the redesigned notice tested in Franklin County did not increase collections compared with the state notice, the BIAS team speculated that incorporating additional insights from behavioral science could substantively improve the redesigned notice in Cuyahoga County, perhaps enough to make it significantly more effective than the state notice.

### **Implementation and Main Impacts**

Once the test began, the replacement of the state notice with the redesigned reminder notice for the program group went as planned. There was about an 8 percent return rate for the program group, with nearly half of those parents having their addresses updated after the return to increase the likelihood that subsequent mailings would reach them.

Table 4 shows that the redesigned reminder notice did not influence outcomes for this test. There was no significant impact on either the likelihood of making a payment or the amount paid per parent during the study period. The findings from this partial replication are consistent with those of the original Franklin County test.

### **Summary of Reminder Test Findings**

The three tests found that reminders increased the likelihood of parents making payments compared with no reminders, but they did not result in a statistically significant difference in the average amount paid per parent during the study period. The tests did not find differences in outcomes by the type of the reminder (text messages, redesigned notice, or the existing state notice). The increases in the likelihood of payment in this study were similar to those found in Franklin County, as were the findings that the reminder itself may be more important than the type of reminder.

## **Payment Process for New Child Support Orders**

In recent years, the national child support program has emphasized “early intervention,” a term encompassing a broad array of strategies including ensuring easy access to genetic paternity testing, encouraging order review and modifications, using automated systems to detect changes in circumstances, and emphasizing proactive case management to preempt enforcement actions tied to debt thresholds.<sup>26</sup> Helping parents better understand their payment responsibilities as soon as an order is established is another early intervention practice that child support agencies pursue. In collaboration with OCSS, the BIAS team used behavioral diagnosis and design to explore the payment process for newly established orders in Cuyahoga County. The following section presents findings from the fourth test of a low-cost behavioral intervention, this one designed to increase the collection of child support payments during orders’ first few months.

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26 Office of Child Support Enforcement (2010).

**TABLE 4**  
**CHILD SUPPORT PAYMENT OUTCOMES: OCTOBER 2014 – JANUARY 2015,**  
**TEST 3: REDESIGNED NOTICE FOR NONCUSTODIAL PARENTS**  
**CURRENTLY BEING SENT A NOTICE**

**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**

<b>OUTCOME</b>	<b>PROGRAM GROUP</b>	<b>CONTROL GROUP</b>	<b>DIFFERENCE</b>	<b>P VALUE</b>
Any payment made (%)	36.4	35.7	0.6	0.490
Total amount paid (\$)	292	287	5	0.715
Number of months paid	0.9	0.9	0.0	0.884
<i>Sample size</i>	4,668	4,649		

SOURCE: MDRC calculations using Cuyahoga County Office of Child Support Services data.

NOTES: A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Estimates are adjusted for noncustodial parent baseline characteristics.

### **Define: Increasing Child Support Payments for New Orders**

Some noncustodial parents do not make child support payments for their newly established orders. In Cuyahoga County in 2014, only 37 percent of cases with new orders made a payment in the first two months of the order.<sup>27</sup> In an effort to get parents with new orders off to a better start, OCSS expressed an interest in increasing the percentage of parents who made a payment in the first months after a child support order was established. OCSS also believed that this problem might be more easily addressed for parents who eventually end up with an income withholding order.

### **Diagnose: Why Some Noncustodial Parents with New Orders Fail to Pay**

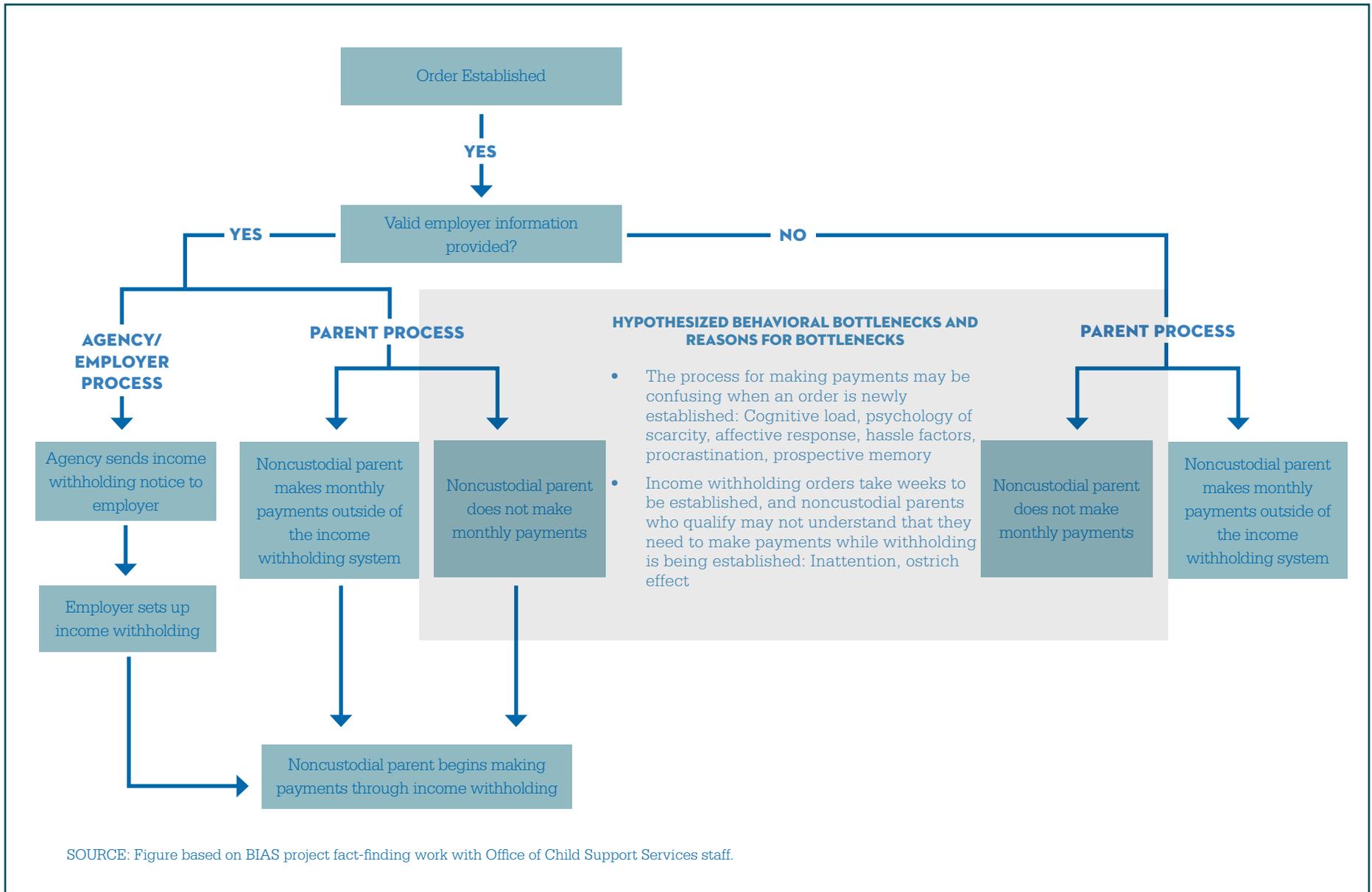
The child support system in Ohio has both administrative and judicial components, and orders can be established by either a judicial or administrative process. Once an order is established and entered into the agency's data system, OCSS sends noncustodial parents a welcome letter to direct them to resources providing information about the child support system.

All parents are expected to make their first payment by the last day of the month in which the order is established. Noncustodial parents who qualify for income withholding are required to report their employer's information to OCSS in order to initiate an income withholding order. However, Cuyahoga County estimates that it takes four to six weeks for a withholding order to be processed, which often results in a two- to three-month delay before payments are deducted from a noncustodial parent's paycheck for the first time. During this period, noncustodial parents who will eventually have their payments automatically deducted via income withholding must make payments using another method.

All six of the payment process bottlenecks previously discussed in this report in relation to the reminder tests for existing orders also apply to newly established orders. The BIAS team also identified two payment bottlenecks unique to the period immediately following order establishment (shown in Figure 5). All eight of these bottlenecks are considered amenable to behavioral intervention, but addressing them would have an effect only if some noncustodial parents have the ability and general willingness to pay more.

<sup>27</sup> Correspondence with the site (June 19, 2015).

**FIGURE 5**  
**BEHAVIORAL MAP FOR NEWLY ESTABLISHED ORDERS TO MAKE A CHILD SUPPORT PAYMENT**  
**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**



SOURCE: Figure based on BIAS project fact-finding work with Office of Child Support Services staff.

### **Bottleneck 1: The Process for Making Payments May Be Confusing When an Order is Newly Established.**

The process of establishing an order can be daunting, particularly for first-time noncustodial parents who may not understand child support jargon or may be overwhelmed by the amount of new information they are receiving. The cognitive load created by the initial presentation of information by OCSS and the courts at the time an order is established may prevent some noncustodial parents from fully understanding the requirements of their support order. Many parents may be concurrently dealing with other significant stressors such as separation from a partner, new children, and poverty. These factors and potential manifestations of the **psychology of scarcity** may create a situation in which parents have trouble focusing on their child support payment requirements.<sup>28</sup> Additionally, parents might have an affective response to child support-related matters, which might cause them to tune out important information about the payment process. Interviews with parents and child support staff strongly suggest that many noncustodial parents do not regard OCSS as “father-friendly,” negative perceptions at times exacerbated by adverse interactions during paternity or order establishment hearings.

As shown in Appendix Figure A.2, the current OCSS welcome letter is short and has a positive tone, but does not provide any specific information to parents about payment obligations, options, or the delays in establishing income withholding. The notice directs parents to OCSS’s website, but interviews with parents suggest that some do not have easy access to the Internet or do not regularly use it, and thus this direction might create a hassle factor for some parents.<sup>29</sup> Parents who intend to visit the website might procrastinate or fall victim to prospective memory issues, in which they intend to visit the website but fail to follow through. Parents who do visit the website may find it overwhelming or difficult to navigate, and may choose to abandon their search for the information they need.

### **Bottleneck 2: Income Withholding Orders Take Weeks to Be Established, and Noncustodial Parents Who Qualify May Not Understand That They Need to Make Payments While Withholding Is Being Established.**

Staff focus groups indicated that noncustodial parents are often unaware that income withholding orders do not immediately take effect when their child support order is established and that they are responsible for making payments using another method during this period. Noncustodial parents who fail to make payments during this time accumulate arrears. Because noncustodial parents assume that their orders are being paid through withholding, the accrual of arrears can result in frustration for both noncustodial and custodial parents, and may reduce parents’ trust in OCSS and their willingness to work with the agency. Noncustodial parents may be inattentive to the details of their paycheck or other aspects of the income withholding process. Similarly, parents who believe their payments are taken care of may ignore signs that their payments are not being withheld (for example, no decrease in their take-home pay) or decide to turn a blind eye to the matter altogether, behavior known as the ostrich effect.

### **Design: Behaviorally Informed Outreach**

The BIAS team hypothesized that sending a redesigned welcome letter in addition to monthly payment reminder notices may help noncustodial parents with new child support orders better understand what is required of them in the first months of an order’s life. The team hypothesized that this might be particularly important for noncustodial parents who are in the process of setting up an income withholding order and may not realize they are responsible for making payments via another method while OCSS initiates the order. Figure 6 displays the BIAS team’s redesigned letter.

28 Shah, Mullainathan, and Shafir (2012); Mani, Mullainathan, Shafir, and Zhao (2013).

29 Parents can also request a welcome packet, which contains pertinent information from the website. In the first half of 2014, Cuyahoga opened approximately 1,500 cases per month and received an average of six requests for a packet each month. Correspondence with the site (July 14, 2014).

**FIGURE 6**  
**BIAS CUYAHOGA COUNTY WELCOME LETTER**  
**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**



Cuyahoga County  
**Job and Family Services**

Office of Child Support

*Reframe the message*

Dear «Obligor\_First\_Name» «Obligor\_Last\_Name»: Welcome to the Cuyahoga County Job and Family Services, Office of Child Support Services (OCSS)! We look forward to working with you to make the child support process as easy as possible.

**Supporting Your Child**

- Making regular, on-time payments will provide «Child\_Name» with greater stability. If you miss a payment, you will accumulate past due support, owe a higher monthly amount, and face possible penalties. **This is why it is so important for you to make on-time payments starting now.**
- We can link you to additional services such as parenting and job readiness programs and assistance with parenting time/visitation orders. Contact us or call 211 for more information about these services.

**Important Message for Parents**

**NOW**

- Make sure OCSS has your up-to-date employment information so income withholding can be arranged.
- Make your first payment using the included payment notice. Withholding may not start for 1-2 months.

**IN 1-2 MONTHS**

- Withholding paperwork is likely being processed. This typically takes 1-2 months.
- Continue to make your monthly payment using the notices or another method.

**AFTER 2 MONTHS**

- Look at your paystub to confirm withholding has begun. Contact OCSS if it has not.
- If you don't have income withholding, continue to make payments using the notices or another method.

*Use timeline and visual aid*

**Your Child Support Information**

*Please keep this information on file, as you will be asked to provide it any time you contact our office.*

Obligor:	«Obligor_First_Name» «Obligor_Last_Name»	SETS Case Number:	«SETS_Number»
Obligee/Custodial Parent:	«Obligee_First_Name» «Obligee_Last_Name»	Order Number:	«Order_Number»
Effective Date:	«Effective_Date»	Monthly Payment:	«Total_Monthly_Obligation»
Child(ren):	«Child_Name»		

**Questions? Contact us!**

- Self-service web portal: [www.jfs.ohio.gov/ocs](http://www.jfs.ohio.gov/ocs)
- Website: <http://cjfs.cuyahogacounty.us> - includes link to a live online chat
- Phone: (216) 443-5100 | Toll free in Ohio: 1-800-443-1431 | **In-Person:** 1640 Superior Ave., Cleveland

The redesigned letter attempted to provide information to different types of noncustodial parents — both those who would eventually make payments via income withholding and those who would continue to make payments through other methods. It was not possible to target different types of payers with unique notices since the research team conducted random assignment as soon as a child support order was established and before any payment was made.

The redesigned welcome letter used a bundled design that featured a number of behavioral concepts and intervention components (as shown in Table 5).

**Inclusion of key information:** The redesigned welcome letter provided key pieces of information in the body of the letter, rather than assuming parents knew the relevant information or creating a hassle factor by asking them to find the information elsewhere. Importantly, the redesigned welcome letter reminded parents enrolled in income withholding that they are responsible for making payments before their withholdings begin.

**Reframe the message:** The redesigned welcome letter informed noncustodial parents about other services OCSS offers in an effort to combat the stereotype that child support programs are not “father-friendly.”

**Use of timelines and visual aids:** The redesigned welcome letter used colors and clear headings that directed readers to categorically organized information. Creating a letter that stood out from typical government correspondence may increase the number of parents who read it. In addition, the letter used three boxes to visually cue readers to the steps that required attention immediately, in one to two months and two months onward. Clearly delineating what needs to be accomplished and when may help noncustodial parents follow through on their intentions.

#### Test 4: Do Behaviorally Informed Welcome Letters and Payment Reminder Notices Increase Payments in the First Few Months After an Order Is Established?

All noncustodial parents with child support orders greater than \$0 established during the intervention period were eligible for random assignment.<sup>30</sup> This sample included some parents who also had other, pre-existing child support orders.<sup>31</sup> Parents were randomly assigned to a research group on a rolling basis as cases were entered into the state’s data system. Parents randomly assigned to the control group (N=657) continued to be sent the existing welcome letter from the county on a rolling basis as the new orders were entered. Noncustodial parents assigned to the program group (N=646) were sent the redesigned welcome letter within a week of their case being established, along with a payment reminder notice for the first month of the order. Parents in the program group continued to be sent a payment reminder notice each month (mailed on approximately the fifteenth of the month) for the duration of the intervention. When income withholding began for a parent during the course of the intervention, they were no longer sent a notice. The payment reminder notice sent to noncustodial parents was the redesigned notice (Figure 4) used for the program groups in Tests 1, 2, and 3. The test ran from October 2014 to January 2015, and outcomes were only measured for the four intervention months. The evaluation was designed to answer the following research question:

- Does sending a behaviorally informed welcome letter and a monthly reminder notice increase the percentage of noncustodial parents who make a payment and the dollar amount of those payments per parent in the first two months after a new child support order is established?

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30 Orders of \$0 can occur for a variety of reasons. Noncustodial parents can prove that they lack the ability to pay, such as if they are receiving certain types of public assistance, in which case the state’s guidelines call for an order of \$0. The courts in Ohio are also empowered to deviate from the state’s guidelines and set orders of \$0. The court can, for example, make arrangements for a noncustodial parent to pay for his or her child’s health insurance or school tuition instead of making monthly payments.

31 However, only 15 noncustodial parents in this sample were also randomized in another sample.

**TABLE 5  
HYPOTHESIZED RELATIONSHIPS OF BOTTLENECKS, BEHAVIORAL CONCEPTS, AND  
INTERVENTION COMPONENTS OF THE WELCOME LETTER TEST**

**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**

HYPOTHESIZED BOTTLENECK AND BEHAVIORAL CONCEPTS	INTERVENTION COMPONENTS <sup>a</sup>		
	Provide Key Information	Reframe Message	Use Timeline and Visual Aid
<b>THE PROCESS FOR MAKING PAYMENTS MAY BE CONFUSING WHEN AN ORDER IS NEWLY ESTABLISHED.</b>			
Cognitive load	✓		✓
Psychology of scarcity	✓		✓
Affective response		✓	
Hassle factors	✓		
Procrastination	✓		
Prospective memory	✓		
<b>INCOME WITHHOLDING ORDERS TAKE WEEKS TO BE ESTABLISHED, AND NONCUSTODIAL PARENTS WHO QUALIFY MAY NOT UNDERSTAND THAT THEY NEED TO MAKE PAYMENTS WHILE WITHHOLDING IS BEING ESTABLISHED.</b>			
Inattention	✓		✓
Ostrich effect			✓

NOTES: : Behavioral concepts cannot be definitively identified, but rather are hypotheses derived from the behavioral diagnosis and design process that may explain behavioral bottlenecks.

<sup>a</sup>The following are examples of intervention components in the Cuyahoga County study:

*Provide key information:* Explain income withholding and other payment options.

*Reframe message:* Let parents know about the agency’s “father-friendly” programs and partial payment option.

*Use timelines and visual aids:* Clearly delineate the steps parents need to take each month.

**Implementation and Main Impacts**

The BIAS welcome letter and notices were mailed as intended. About 9 percent of sample members had any material returned to OCSS. A small number of sample members (37) were dropped from the analysis because they were randomized twice to different groups.<sup>32</sup>

Table 6 shows that the BIAS welcome letter and redesigned reminder notices did not result in a statistically significant impact on the likelihood of parents making a payment during the study period. There was also no statistically significant impact on the amount paid per parent during the study period. It is important to note that the sample sizes in this study were not large enough to detect very small payment differences of magnitudes such as those detectable in the other tests.<sup>33</sup> Payment amounts per parent may have changed by a few dollars, for example, or may have changed for some sample members but not for others, and the significance tests would fail to detect such small or rare impacts.

32 This result was an expected byproduct of the method of randomization for this particular sample. In order to maintain the anonymity of the sample members, randomization was conducted using a sequence as new cases came into the system. In the rare cases in which a parent had more than one new order established during the BIAS study’s intake period, there was a chance that they would be re-randomized to a different group.

33 The minimum detectable effect is two to four times larger in this test than in the other tests.

**TABLE 6**  
**CHILD SUPPORT PAYMENT OUTCOMES: SEPTEMBER 2014 – JANUARY 2015,**  
**TEST 4: REDESIGNED WELCOME LETTER FOR NONCUSTODIAL**  
**PARENTS WITH NEW ORDERS**

**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**

<b>OUTCOME</b>	<b>PROGRAM GROUP</b>	<b>CONTROL GROUP</b>	<b>DIFFERENCE</b>	<b>P VALUE</b>
Any payment made (%)	54.8	52.5	2.3	0.357
Total amount paid (\$)	708	634	73	0.534
Number of months paid	0.9	0.9	0.0	0.369
<i>Sample size</i>	<i>536</i>	<i>542</i>		

SOURCE: MDRC calculations using Cuyahoga County Office of Child Support Services data.

NOTES: A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Estimates are adjusted for noncustodial parent baseline characteristics.

All outcomes in this table represent two months of follow-up, which was the maximum period available for the last sample members randomized in this test.

## Additional Findings from All Tests

Several exploratory tests were performed to investigate differences in outcome trends, outcome variances, and subgroup impacts. There were no significant increases in impacts over the months of the study, nor were there any significant differences in the range of outcomes, or variance, between the program and control groups. There were no significant differences in impacts between subgroups of sample members (as determined by baseline characteristics related to ability to pay), including order type, number of child support cases, public assistance involvement, history of wage withholdings, years in the child support system, and payments made in the last year. An explanation of and more details about these tests can be found in Appendix B.

All of the interventions evaluated were low cost. The primary costs for the interventions in Tests 1 and 2 were printing and mailing payment reminder notices and postage-paid return envelopes to parents who were not already being sent them. The total cost for those interventions was about \$0.65 per mailing, or about \$3.25 per noncustodial parent for the five-month tests. Text messages sent to some program group members in Test 2 cost \$0.01 each, or approximately \$0.10 per person for the duration of the test (two texts per month for five months). Since all noncustodial parents in Tests 3 and 4 were already being sent some type of notice, those interventions' only additional costs were including postage-paid return envelopes with the payment reminder notices. Those costs are estimated to be approximately \$0.10 per mailing, or \$0.40 per parent for the duration of the four-month Test 3 and \$0.50 per parent in Test 4 who had an order opened in September and had not begun making income withholding payments by the end of the five-month test.

## Discussion

In Cuyahoga County, the BIAS project tested several reminders and changes to notices intended to increase child support payments in order to create a more stable income source for custodial parents. These interventions resulted in several modest but statistically significant impacts on payment behavior, showing the relatively easy implementation and useful application of behavioral insights to a human services program as well as the potentially limited impacts of behavioral interventions in some contexts.

**1. Reminders are an inexpensive and effective way to increase the percentage of parents making payments, and a less expensive type of reminder (text messages) was as effective as a more expensive one (mailed notices).**

This study reinforces the finding from Franklin County that reminders can affect noncustodial parent payment behavior. This conclusion is in contrast with that of another recent study, which found that child support payment reminders in Washington had no impact on a parent's likelihood to make a payment.<sup>34</sup> However, that study only sent reminders to parents who had a child support order opened for the first time and who were not immediately subject to an income withholding order. In addition, the study's research sample was considerably smaller (less than 2,700 parents), and its study period was considerably longer (up to 18 months) than those of the BIAS Cuyahoga and Franklin County tests. These and other differences between the studies might explain why the BIAS project tests consistently found that payment reminders, relative to no reminders, increased the percentage of noncustodial parents making payments.

The Cuyahoga and Franklin County tests also found that the design of a reminder or how it is delivered is not as important as the presence of a reminder itself. While a monthly reminder to parents in the program groups relative to no reminder resulted in a statistically significant increase in the percentage of parents making payments, there is no evidence that suggests one form of reminder was more effective than another.

Since there is no evidence as to what form the reminder should take to maximize payments, cost may be an important consideration for agencies. All the reminder interventions tested in Cuyahoga County were low cost. Mailed payment reminder notices, which included postage-paid return envelopes, cost about \$0.65 per person per month, but similarly effective text messages only cost about \$0.02 per person per month. Similarly, in Franklin County, robocalls were also much less expensive than mailings, but equally effective. Child support administrators should strongly consider using text messages or robocalls given their impact on payments and low labor and financial costs.

**2. The reminders evaluated did not increase overall collection amounts per parent, and this finding may speak to the potential limitations of behavioral interventions in certain contexts.**

Consistent with findings from Franklin County, there was no statistically significant increase in total collection amounts per parent across all types of reminders. There may be several explanations for this finding. Based on parent and staff interviews, as well as past child support research, it is likely that some of the parents who were sent a reminder had limited incomes and thus limited means to pay more.<sup>35</sup> This study may speak to the limitations of low-intensity behavioral interventions such as reminders, when underlying issues such as ability to pay, employment, and orders that are not "right-sized," remain unresolved.<sup>36</sup> It is also possible that the design of the notices was not sufficient to leverage increased payment amounts, and different psychological concepts could be better leveraged in a redesigned reminder to pay.

**3. There was no evidence that reminders' effects increased over time.**

In the Franklin County study, the BIAS team observed that the difference between the program and control group payments grew over time. In Cuyahoga County, the team tested this issue and found no statistically significant increase in collections over the months of the study. However, the Cuyahoga and Franklin County tests were relatively short, lasting just four or five months. In light of these findings,

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34 Plotnick, Glosser, Moore, and Obara (2015).

35 Sorensen and Zibman (2000).

36 The Washington study also found that payment reminders had no impact on collection amounts. Plotnick, Glosser, Moore, and Obara (2015).

additional research on the impact of reminders over the medium and long term might yield valuable information for researchers and policymakers.<sup>37</sup> The literature is mixed on the distal impacts of behavioral interventions, such as reminders, and a longer test period could help clarify whether any cumulative effects exist.<sup>38</sup>

#### **4. The redesigned welcome letter and behaviorally informed payment reminder notice, relative to the existing outreach, did not yield any significant impacts.**

There is no evidence that the redesigned welcome letter or payment reminder notice, relative to existing materials, had an effect on payment behavior. There may be several explanations for this finding. It is possible that the redesigned welcome letter did not leverage psychological concepts adequately to make a significant difference and a different message or tactic might prove more successful. The findings might suggest that a light-touch early intervention such as mailed outreach is insufficient in getting parents to make payments in the first months of an order's life, similar to the findings from the study of payment reminders in Washington for parents with new orders. Finally, in the case of revising or improving existing materials, findings from both Franklin and Cuyahoga County suggest that the treatment contrast may be too small to expect significant impacts.

#### **5. There are several areas for future research that might prove fruitful for child support researchers.**

- a. *Additional behavioral issues could be addressed in future studies.* Both Cuyahoga County and Franklin County tested a limited number of iterations in reminders that produced small but significant impacts. However, much iteration remains unexplored, and future research could study additional variations that might affect collections and agency performance measures. For example, text messages could incorporate parents' names, or mailings could include factually accurate descriptions of other parents' behavior.<sup>39</sup> Alternatively, behavioral interventions could be used to increase the percentage of parents who pay through income withholding or other automated means and the speed with which those payment methods are implemented for parents.
- b. *Researchers could further explore the characteristics of those who responded to reminders, compared with those who did not, to determine whether targeting is possible in the future.* While subgroup analyses did not identify any characteristics consistently associated with responsiveness to reminders, additional research might prove useful. A low-cost reminder for all noncustodial parents could be developed in combination with more intensive interventions for parents who demonstrate less capacity or willingness to make payments.
- c. *In an effort to leverage additional payments, researchers could explore other means to increase parent engagement that, in conjunction with reminders, may increase payment amounts.* This study largely did not address the potential connection between noncustodial parents' feelings toward their child and the custodial parent, but field research suggests that it is a significant issue for many parents regarding support for their child. Fatherhood initiatives and other targeted services may help prompt parents to make additional payments.
- d. *"Right-sizing" orders may be an important strategy to increase the proportion of payments collected by child support agencies.* Implementation and field research done by the team suggests that many noncustodial parents view their child support payments as unreasonably high. Past research suggests that some noncustodial parents have very low incomes or ability to pay and face significant

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37 While the Washington study used an 18-month study period, they did not report whether the impact of payment reminders changed over time.

38 See, for example, Allcott and Rogers (2014) and Jayaraman, Ray, and Vericourt (2014).

39 Haynes et al. (2013); Allcott (2011).

## BOX 2 CUYAHOGA COUNTY'S PERSPECTIVE

The Cuyahoga Job and Family Services Office of Child Support Services (OCSS) benefited from participating in the BIAS project. As the program transitions from a punitive-based program toward a family-oriented program, we can use the design and diagnosis framework to test and improve actual results, rather than relying on what we think might work. Learning more about behavioral interventions has caused us to look more closely at the hassle factors we unintentionally create and how our actions or documents prime positive or negative identities for program participants.

Increasing payments by 2.5 percent points when a reminder is sent is significant, but sending letters or text messages is only one step to regular and consistent support for the families we serve. If we can use a relatively inexpensive form of communication, such as text messaging, to increase payments from some parents, combined with the use of income withholding orders when parents are employed, this then leaves us with additional resources to focus on cases where the family requires more intensive engagement to address barriers to payment.

Following the tested interventions, OCSS continues to send the redesigned welcome letter to all parents with a new order. We plan to implement a text message reminder program. The BIAS project also renewed our focus on obtaining up-to-date location information, including cell phone numbers and e-mail addresses, every time we engage with a parent.

Deborah Watkins  
Executive Director  
Cuyahoga Job and Family Services, Office of Child Support Services

employment barriers for developing the ability to pay.<sup>40</sup> Right-sizing orders through modifications or other means could be an important avenue that would set more realistic standards for noncustodial parents and increase child support agencies' collections performance. Past research has found that high child support obligations (measured as a percentage of parents' income) are associated with lower collection rates.<sup>41</sup>

- e. *Employment strategies could be a key part of increasing collections.* Assuming "ability to pay" had a significant influence on this study, child support agencies and researchers could focus on workforce efforts, which might more directly affect collections. Past research has found mixed evidence suggesting that workforce development strategies can increase collections.<sup>42</sup> Employment strategies should be and are being studied for their impact on child support outcomes.<sup>43</sup>

OCSS was an active partner throughout this research study. Box 2 provides their perspective on the research and planned next steps as a result of the findings.

## Conclusion

In Cuyahoga County, the BIAS project tested several low-cost, low-effort interventions to increase child support collections. Some of these interventions produced statistically significant increases in the percentage of parents making child support payments, but these additional payments were not large enough to result in a statistically significant increase in overall collections. There was no evidence that the form of the reminder mattered as much as the existence of the reminder itself. Thus, child support agencies may wish to prioritize the least expensive options for reminders. Overall, the low-cost behavioral interventions tested by the BIAS project in Cuyahoga and Franklin counties were easy to adminis-

40 Sorensen and Zibman (2000).

41 Formoso and Peters (2003); Formoso and Liu (2010); Hu and Meyer (2003); Meyer, Ha, and Hu (2008); Huang, Mincy, and Garfinkel (2005); Eldred and Takayesu (2013); Hall, Passarella, and Born (2014); Saunders, Passarella, and Born (2014).

42 Bloom et al. (2014).

43 Bloom (2015).

ter, but their impacts may speak to the limitations of behavioral interventions in some contexts. Future research on increasing child support collections could focus on other key areas, such as parental engagement, order modifications, and employment services.

Behavioral economics provides a new way of thinking about the design of human services programs and a potentially powerful set of tools for improving program outcomes. The BIAS project offers the opportunity for continued hypothesis-testing grounded in behavioral economics and takes advantage of the low-cost, iterative nature of rapid-cycle experimentation. In addition to the Ohio child support research and work covered in earlier reports (see the list of previously published research at the end of this report), the BIAS project has completed evaluations with other partners, including the Los Angeles County (California) Department of Public Social Services, the Indiana Office of Early Childhood and Out of School Learning, and the Washington State Division of Child Support. Results from these evaluations will be published as they become available to further inform this rapidly developing field.

# **APPENDIX A**

Additional  
Background

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**APPENDIX TABLE A.1  
BEHAVIORAL TERMS**

TERM	DEFINITION	EXAMPLE TEXT
<b>Affective response</b>	Decision making that is driven by a feeling or an emotion. Emotions can drive our choices much more than we expect, and “gut” decisions have far-reaching consequences. For example, “crimes of passion” may reflect a momentary affective response.	Slovic, Finucane, Peters, and MacGregor (2002)
<b>Cognitive load</b>	Overburdened mental resources that impair individual decision making. People typically think that they will be able to pay attention to information and then understand and remember it as long as it is important. However, an individual’s mental resources — which are often taken for granted — are not unlimited and are more fallible than people often recognize. Challenges and emotional stress can drain these mental resources and actually make it difficult to make good decisions.	Paas and van Merriënboer (1994)
<b>Frame</b>	The way in which information is presented. Every piece of information can be presented in different ways, and small changes in the wording of a message or a choice can drastically change the way it is perceived and the choices that people make with regard to it. Information is never evaluated in a neutral or impartial way, because every way of presenting information is a frame that leads people in one direction or another.	Kahneman (2011)
<b>Hassle factor</b>	A feature or situational detail that makes a behavior harder to accomplish. This could be, for example, a small barrier to completing a task, such as filling out a form or waiting in line. While these factors may seem trivial and are often neglected in program design, reducing or eliminating them can have an outsized impact on outcomes.	Bertrand, Mullainathan, and Shafir (2004)
<b>Identity priming</b>	When one identity (for example, being a mother) influences a response to a stimulus. Decisions and actions differ depending on which identity is active, and identities can become active because of small changes in the environment. For example, priming someone’s identity as a good student could boost performance on an exam.	Benjamin, Choi, and Strickland (2010)
<b>Implementation prompt</b>	Ways to assist people in plan making, or forming implementation intentions, which can facilitate the fulfillment of goals.	Milkman et al. (2011)
<b>Inattention</b>	Since people have a limited rate of information processing, they can pay attention to only a restricted amount at any given time.	DellaVigna (2009)
<b>Intention-action gap</b>	When people fail to follow through and act on their plans.	World Bank (2015)
<b>Ostrich effect</b>	The tendency to avoid undesirable information, even when that information might have significant negative implications, including matters of life and death. For example, people have been known to avoid checking on their investments during periods of economic downturns.	Karlsson, Loewenstein, and Seppi (2009)
<b>Planning fallacy</b>	People often underestimate the length of time or amount of effort it will take for them to complete a task, frequently ignoring past experiences.	Brunnermeier, Papakonstantinou, and Parker (Forthcoming)
<b>Present bias</b>	Giving more weight to present concerns than to future ones. People tend to make plans to do unpleasant tasks “tomorrow,” and they make the same choice when “tomorrow” becomes “today.”	Laibson (1997)
<b>Procrastination</b>	When people voluntarily and irrationally delay intended actions, despite the expectation of potentially negative consequences.	Sirois and Pychyl (2013)

(continued)

## APPENDIX TABLE A.1 (CONTINUED)

TERM	DEFINITION	EXAMPLE TEXT
<b>Prospective memory</b>	Remembering to perform a planned action or intention at the appropriate time.	Brandimonte, Einstein, and McDaniel (1996)
<b>Psychology of scarcity</b>	The pressure of negotiating life under conditions of poverty, which exacts a particularly high toll on cognitive resources.	Mullainathan and Shafir (2013)
<b>Reason-based choice</b>	The act of creating reasons or explanations for certain choices in order to resolve any conflicts about that choice and to justify the decision to oneself and to others.	Shafir, Simonson, and Tversky (1993)
<b>Saliency</b>	The degree to which a stimulus attracts and retains a person's attention.	Kahneman (2003)

## APPENDIX TABLE A.2 SELECTED CHARACTERISTICS OF SAMPLE MEMBERS AT BASELINE

### CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES

CHARACTERISTIC	TEST 1		TEST 2			TEST 3		TEST 4	
	PROGRAM GROUP	CONTROL GROUP	NOTICE GROUP	TEXT GROUP	CONTROL GROUP	PROGRAM GROUP	CONTROL GROUP	PROGRAM GROUP	CONTROL GROUP
<b>Gender (%)</b>									
Male	95.4	96.2	95.2	95.3	95.0	93.0	94.1	92.3	92.1
<b>Age</b>	37.8	37.6	36.5	36.6	36.8	36.6	36.3	34.0	35.1
<b>Race/Ethnicity (%)<sup>a</sup></b>									
African-American	69.1	69.4	70.4	70.4	70.6	74.3	76.1	66.4	66.3
Caucasian	19.4	20.0	21.7	21.1	20.7	19.3	16.8	27.1	25.9
Hispanic	8.6	8.3	6.0	6.3	6.0	4.6	5.4	4.3	5.0
Other	2.9	2.3	1.9	2.3	2.8	1.8	1.7	2.1	2.8
<b>Number of child support cases</b>	1.2	1.2	1.3	1.3	1.3	1.5	1.5	1.0	1.0
<b>Length of time since first case opened (years)<sup>b</sup></b>	8.5	8.5	8.1	7.8	7.8	7.9	7.8	n/a	n/a
<b>Baseline child support order (\$)</b>	251	244	296	305	301	297	290	n/a	n/a
<b>Baseline arrears order (\$)</b>	44	44	56	58	60	43	42	n/a	n/a
<b>Baseline arrears (\$)</b>	14,905	14,290	13,416	12,645	13,364	15,142	14,506	n/a	n/a
<b>Baseline payment amount (\$)</b>	56	59	79	77	79	69	70	n/a	n/a
<b>Order Type (%)<sup>c</sup></b>									
Administrative	54.0	54.8	57.9	58.1	58.5	54.0	56.0	57.9	57.4
Judicial	52.6	52.3	51.2	50.8	51.5	59.9	57.8	42.1	42.6
<b>Sample size</b>	5,238	5,191	1,571	3,166	1,609	4,697	4,684	646	657

SOURCE: MDRC calculations using Cuyahoga County Office of Child Support Services data.

NOTES: An omnibus F-test was conducted to test for systematic differences in baseline characteristics between program and control groups. No statistically significant differences were found.

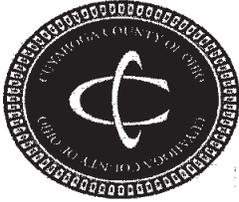
<sup>a</sup>Percentages may not sum to 100 because of rounding.

<sup>b</sup>Baseline child support data are from August 2014 for Tests 1 and 2 and September 2014 for Test 3. Baseline child support data are not available for these characteristics for Test 4 as these parents were randomly assigned as their order was being established.

<sup>c</sup>Percentages may not sum to 100 as noncustodial parents with multiple cases may have both administrative and judicial orders.



**APPENDIX FIGURE A.2**  
**EXISTING CUYAHOGA COUNTY WELCOME LETTER**  
**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**



EDWARD FITZGERALD  
CUYAHOGA COUNTY EXECUTIVE

*No information relevant to making payments (for example, delays in income withholding), just direction to the website*

«Obligor\_First\_Name» «Obligor\_Last\_Name»  
«Address1»  
«Address2»  
«CityStZip»

WELCOME TO THE CUYAHOGA COUNTY JOB AND FAMILY SERVICES, OFFICE OF CHILD SUPPORT SERVICES! We look forward to working with you! The information shown below is your case information and you will be asked to provide it when you contact our office.

To learn more about the child support program, please visit our website at: <http://cjfs.cuyahogacounty.us> Click the "Child Support" link and then the "Welcome Packet/Enforcement" link . Once there, you will find helpful information regarding our services, definition of terms, contact information, frequently asked questions and much more.

You can access your case 24/7 on the self service web portal at [www.ifs.ohio.gov/ocs](http://www.ifs.ohio.gov/ocs). Once registered, you can view your case information, send messages to our office, provide updates and print 24 months of payment history. REGISTER NOW!

If you do not have access to a computer, a packet can be mailed to you by leaving a message at 216-344-2596. If you have questions, you may reach our office via the BoldChat link on our website, send messages via the web portal or call the contact center at 216-443-5100.

Date: 7/11/2014

Obligor: «Obligor\_First\_Name» «Obligor\_Last\_Name» SETS Number: «SETS\_Number»

Obligee: «Obligee\_First\_Name» «Obligee\_Last\_Name» Order Number: «Order\_Number»

Effective Date: «Effective\_Date»

Monthly Payment:

Child: «Child\_Name»

«Total\_Monthly\_Obligation»

Cuyahoga Job and Family Services (CJFS), Office of Child Support Services (OCSS)  
Mailing Address: P.O. Box 93318, Cleveland, OH 44101-5318  
Street Address: 1640 Superior Ave., Cleveland, OH 44114-2908  
Phone: (216) 443-5100 -Toll Free in Ohio: 1-800-443-1431-Ohio Relay Service 711  
Faxes: Direct Services: (216) 443-5145-Client Services: (216) 344-2997-Finance & Operations: (216) 515-8484  
E-Mail Address: [cuycsea@odjfs.state.oh.us](mailto:cuycsea@odjfs.state.oh.us)- Web Address: <http://cjfs.cuyahogacounty.us>

**APPENDIX B**  
Exploratory  
Analysis

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Several exploratory tests were performed to investigate differences in outcome trends, outcome variances, and subgroup impacts. There were neither any significant increases in impacts over the months of the study nor were there any significant difference in outcome variances between program and control groups. There were no significant differences in impacts between subgroups of sample members (as determined by baseline characteristics related to ability to pay), including order type, number of child support cases, public assistance involvement, history of wage withholdings, years in the child support system, and payment made in the last year. More information on these tests can be found below.

## Trends Over Time

If the size of the differences in payment amounts per parent were to increase or decrease as the months progressed, it might be possible to extrapolate how the program would likely perform after the study period ended. The impacts over time for Tests 1, 2, and 3 were analyzed to see if there was any such trend during the study months based on a statistical test of the interaction between research group and months of program. For Tests 1 and 2, there was no significant linear trend in the impact on payment amounts over time during the study. For Test 3, there was a small negative linear trend in payment amounts over time, but no individual month's impact was significant. While there may be a more complex trend that is undetected by this simple model, it is unlikely that the impacts are changing substantially from month to month in a straight or linear fashion.

## Variance Tests

Even without impacts on the average amount paid, an impact on outcome variance — or the range of outcomes — would indicate that the program had affected the amount paid for at least some noncustodial parents. For example, if the program group had smaller variance in payment amount than the control group, that could indicate that noncustodial parents paying lower amounts were more affected by the program, shrinking the distribution. On the other hand, if the program group had larger variance in payment amounts than the control group, that could indicate that noncustodial parents paying higher amounts were more affected by the program, widening the distribution. The variance of the amount paid was analyzed for Tests 1, 2, and 3 to see if it was larger or smaller for the program group compared with the control group. However, no difference in variance was found between the two groups.<sup>1</sup> This finding does not completely rule out the possibility of an impact for some subset of noncustodial parents (for example, there could be positive effects for some subset of sample members that offset negative effects for another subset), but this test does not offer any evidence of such effects.

## Subgroups

Several subgroups of the sample members in Tests 1 through 4 were analyzed to explore whether these interventions may have performed better among subsamples determined by certain baseline characteristics related to ability to pay: order type, number of child support cases, public assistance involvement, history of wage withholding, years in the child support system, and payments made in the last year. The subgroup analyses were exploratory and the statistically significant differences in impacts by subgroup did not maintain significance when multiple comparison adjustments were applied.<sup>2</sup>

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1 A Brown-Forsyth test of variance was performed. This test was chosen for its robustness in highly skewed non-normal distributions, which is the case for payments where most are zero but a few are very large.

2 With each additional statistical comparison, there is an increase in the probability of the rejections of a null hypothesis by chance, resulting in a false discovery. The Benjamini-Hochberg procedure controls this false discovery rate. These adjustments, when performed on the differential impact significance levels in Appendix Table B.1, eliminated all statistically significant subgroup findings.

**APPENDIX TABLE B.1  
CHILD SUPPORT PAYMENT OUTCOMES FOR SUBGROUPS:  
SEPTEMBER 2014 – JANUARY 2015**

**CUYAHOGA COUNTY OFFICE OF CHILD SUPPORT SERVICES**

OUTCOME	ADMINISTRATIVE ORDERS			JUDICIAL ORDERS			SUBGROUP DIFFERENCE
	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	
<b>Test 1: No cell phone</b>							
Any payment made (%)	39.9	37.2	2.7**	41.8	39.6	2.2*	
Total amount paid (\$)	199	192	7	487	454	33	
Number of months paid	1.3	1.2	0.0	1.4	1.4	0.1	
<i>Sample size</i>	<i>2,477</i>	<i>2,467</i>		<i>2,404</i>	<i>2,345</i>		
<b>Test 2: Cell phone</b>							
Paper statement							
Any payment made (%)	47.8	42.3	5.5**	54.3	53.4	0.9	
Total amount paid (\$)	367	342	24	668	712	-45	
Number of months paid	1.5	1.3	0.2**	1.7	1.7	0.1	
<i>Sample size</i>	<i>761</i>	<i>776</i>		<i>659</i>	<i>668</i>		
Text reminder							
Any payment made (%)	47.8	42.3	5.5***	54.2	53.4	0.8	
Total amount paid (\$)	395	342	53*	651	712	-61	
Number of months paid	1.5	1.3	0.2***	1.8	1.7	0.1	
<i>Sample size</i>	<i>1,551</i>	<i>776</i>		<i>1,323</i>	<i>668</i>		
<b>Test 3: Already receiving statement</b>							
Any payment made (%)	33.1	34.6	-1.5	39.6	37.8	1.7	
Total amount paid (\$)	187	191	-4	402	404	-3	
Number of months paid	0.8	0.9	0.0	1.0	1.0	0.0	
<i>Sample size</i>	<i>1,858</i>	<i>1,946</i>		<i>2,155</i>	<i>2,060</i>		
<b>Test 4: New orders</b>							
Any payment made (%)	47.6	46.4	1.2	62.5	59.3	3.3	
Total amount paid (\$)	251	236	14	1,301	1,147	154	
Number of months paid	0.8	0.8	0.0	1.1	1.0	0.1	
<i>Sample size</i>	<i>374</i>	<i>377</i>		<i>272</i>	<i>280</i>		

(continued)

## APPENDIX TABLE B.1 (CONTINUED)

OUTCOME	ONE CHILD SUPPORT CASE			MULTIPLE CHILD SUPPORT CASES			SUBGROUP DIFFERENCE
	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	
<b>Test 1: No cell phone</b>							
Any payment made (%)	41.0	38.8	2.2**	38.8	36.0	2.8	
Total amount paid (\$)	356	339	17	219	200	19	
Number of months paid	1.4	1.3	0.0	1.3	1.2	0.1	
<i>Sample size</i>	4,316	4,269		908	911		
<b>Test 2: Cell phone</b>							
Paper statement							
Any payment made (%)	51.3	48.4	2.8	47.6	44.5	3.1	
Total amount paid (\$)	527	530	-3	459	426	33	
Number of months paid	1.6	1.5	0.1*	1.4	1.3	0.1	
<i>Sample size</i>	1,173	1,237		389	367		
Text reminder							
Any payment made (%)	51.7	48.4	3.3**	43.5	44.5	-1.0	
Total amount paid (\$)	541	530	11	416	426	-10	
Number of months paid	1.7	1.5	0.2***	1.3	1.3	0.0	+
<i>Sample size</i>	2,410	1,237		746	367		
<b>Test 3: Already receiving statement</b>							
Any payment made (%)	37.4	37.3	0.1	34.1	32.2	1.9	
Total amount paid (\$)	325	323	3	211	214	-3	
Number of months paid	1.0	0.9	0.0	0.8	0.8	0.0	
<i>Sample size</i>	3,226	3,226		1,442	1,423		

(continued)

## APPENDIX TABLE B.1 (CONTINUED)

OUTCOME	PUBLIC ASSISTANCE INVOLVEMENT			NO PUBLIC ASSISTANCE INVOLVEMENT			SUBGROUP DIFFERENCE
	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	
<b>Test 1: No cell phone</b>							
Any payment made (%)	33.6	30.5	3.2	41.4	39.1	2.4**	
Total amount paid (\$)	95	94	2	359	337	22	
Number of months paid	1.1	1.0	0.0	1.4	1.3	0.1*	
<i>Sample size</i>	<i>518</i>	<i>492</i>		<i>4,706</i>	<i>4,688</i>		
<b>Test 2: Cell phone</b>							
Paper statement							
Any payment made (%)	36.9	31.1	5.8	51.7	48.9	2.8*	
Total amount paid (\$)	164	184	-20	548	543	5	
Number of months paid	1.1	0.9	0.2	1.6	1.5	0.1*	
<i>Sample size</i>	<i>122</i>	<i>131</i>		<i>1,440</i>	<i>1,473</i>		
Text reminder							
Any payment made (%)	40.8	31.1	9.7**	50.7	48.9	1.7	+
Total amount paid (\$)	249	184	65	530	543	-13	
Number of months paid	1.2	0.9	0.3*	1.6	1.5	0.1*	
<i>Sample size</i>	<i>300</i>	<i>131</i>		<i>2,856</i>	<i>1,473</i>		
<b>Test 3: Already receiving statement</b>							
Any payment made (%)	25.6	25.5	0.1	38.0	37.3	0.7	
Total amount paid (\$)	83	81	2	323	321	2	
Number of months paid	0.6	0.6	0.0	1.0	1.0	0.0	
<i>Sample size</i>	<i>628</i>	<i>615</i>		<i>4,040</i>	<i>4,034</i>		
<b>Test 4: New orders</b>							
Any payment made (%)	30.1	30.2	-0.1	58.7	56.8	1.9	
Total amount paid (\$)	124	111	13	808	742	66	
Number of months paid	0.5	0.5	0.0	1.0	1.0	0.0	
<i>Sample size</i>	<i>124</i>	<i>105</i>		<i>522</i>	<i>552</i>		

(continued)

## APPENDIX TABLE B.1 (CONTINUED)

OUTCOME	EVER HAD WAGE WITHHOLDING			NEVER HAD WAGE WITHHOLDING			SUBGROUP DIFFERENCE
	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	
<b>Test 1: No cell phone</b>							
Any payment made (%)	70.6	70.2	0.3	35.2	32.4	2.8***	
Total amount paid (\$)	770	735	36	254	236	18	
Number of months paid	2.4	2.4	0.0	1.2	1.1	0.1*	
<i>Sample size</i>	813	796		4,411	4,384		
<b>Test 2: Cell phone</b>							
Paper statement							
Any payment made (%)	76.2	76.7	-0.4	39.3	34.7	4.6**	
Total amount paid (\$)	953	891	62	341	351	-10	
Number of months paid	2.6	2.6	0.1	1.1	1.0	0.1**	
<i>Sample size</i>	469	502		1,093	1,102		
Text reminder							
Any payment made (%)	75.0	76.7	-1.7	38.9	34.7	4.2**	††
Total amount paid (\$)	884	891	-6	334	351	-18	
Number of months paid	2.6	2.6	0.0	1.1	1.0	0.1**	
<i>Sample size</i>	937	502		2,219	1,102		
<b>Test 3: Already receiving statement</b>							
Any payment made (%)	66.5	62.5	4.0	32.7	32.3	0.4	
Total amount paid (\$)	586	578	8	255	251	4	
Number of months paid	1.9	1.8	0.1	0.8	0.8	0.0	
<i>Sample size</i>	516	515		4,152	4,134		

(continued)

## APPENDIX TABLE B.1 (CONTINUED)

OUTCOME	HAD A CHILD SUPPORT CASE FOR LESS THAN 5 YEARS			HAD A CHILD SUPPORT CASE FOR 5 YEARS OR MORE			SUBGROUP DIFFERENCE
	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	
<b>Test 1: No cell phone</b>							
Any payment made (%)	44.2	45.0	-0.9	41.1	37.7	3.4***	+
Total amount paid (\$)	454	428	26	314	296	19	
Number of months paid	1.5	1.6	-0.1	1.4	1.3	0.1**	++
<i>Sample size</i>	<i>895</i>	<i>870</i>		<i>3,427</i>	<i>3,474</i>		
<b>Test 2: Cell phone</b>							
Paper statement							
Any payment made (%)	56.7	49.6	7.1**	48.9	46.7	2.1	
Total amount paid (\$)	600	706	-105	497	448	49	
Number of months paid	1.7	1.6	0.2**	1.5	1.4	0.1	
<i>Sample size</i>	<i>368</i>	<i>399</i>		<i>1,011</i>	<i>1,029</i>		
Text reminder							
Any payment made (%)	54.0	49.6	4.4*	48.7	46.7	1.9	
Total amount paid (\$)	570	706	-135	491	448	42	+
Number of months paid	1.8	1.6	0.2**	1.5	1.4	0.1	
<i>Sample size</i>	<i>782</i>	<i>399</i>		<i>2,005</i>	<i>1,029</i>		
<b>Test 3: Already receiving statement</b>							
Any payment made (%)	34.8	37.2	-2.5	37.4	35.2	2.2*	++
Total amount paid (\$)	394	376	18	261	267	-6	
Number of months paid	0.9	0.9	0.0	0.9	0.9	0.0	
<i>Sample size</i>	<i>1,140</i>	<i>1,179</i>		<i>3,046</i>	<i>2,971</i>		

(continued)

## APPENDIX TABLE B.1 (CONTINUED)

OUTCOME	MADE A PAYMENT IN PAST YEAR			NO PAYMENTS IN PAST YEAR			SUBGROUP DIFFERENCE
	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	PROGRAM GROUP	CONTROL GROUP	DIFFERENCE	
<b>Test 1: No cell phone</b>							
Any payment made (%)	68.6	65.0	3.5***	17.3	16.1	1.2	
Total amount paid (\$)	651	594	57**	71	75	-4	††
Number of months paid	2.5	2.4	0.1	0.4	0.4	0.0	
<i>Sample size</i>	2,384	2,340		2,840	2,836		
<b>Test 2: Cell phone</b>							
Paper statement							
Any payment made (%)	68.1	64.8	3.3	25.1	22.2	2.9	
Total amount paid (\$)	762	760	1	157	145	12	
Number of months paid	2.3	2.1	0.2**	0.6	0.6	0.0	
<i>Sample size</i>	936	958		625	646		
Text reminder							
Any payment made (%)	67.7	64.8	2.9	24.6	22.2	2.4	
Total amount paid (\$)	743	760	-17	178	145	34	
Number of months paid	2.2	2.1	0.2**	0.6	0.6	0.1	
<i>Sample size</i>	1,819	958		1,337	646		
<b>Test 3: Already receiving statement</b>							
Any payment made (%)	64.9	63.6	1.2	16.9	16.3	0.6	
Total amount paid (\$)	615	593	21	66	79	-12	
Number of months paid	1.7	1.7	0.0	0.3	0.3	0.0	
<i>Sample size</i>	1,901	1,907		2,767	2,742		

SOURCE: MDRC calculations using Cuyahoga County Office of Child Support Services data.

NOTES: A two-tailed t-test was applied to differences between research groups. Statistical significance levels are indicated as: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Tests of differences in impact estimates across subgroups were conducted. Statistical significance levels are indicated as: ††† = 1 percent; †† = 5 percent; † = 10 percent.

The statistically significant differences in impacts across subgroups reported in this table did not maintain significance when multiple comparison adjustments were made.

Estimates are adjusted for noncustodial parents' baseline characteristics.

Estimates for Test 4 are limited to those subgroup definitions applicable to newly opened cases during the study period.

Test 3 ran for only three months, from October 2014 to January 2015.

Test 4 represents two months of follow-up, which was the maximum period available for the last sample members randomized in this test.

Parents with multiple orders who have both types of orders, administrative and judicial, are excluded from the order-type subgroup analysis.

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