

*Executive Summary*

# **BEHAVIORAL ECONOMICS AND SOCIAL POLICY**

Designing Innovative Solutions  
for Programs Supported by  
the Administration for  
Children and Families

OPRE Report No. 2014-16a

April 2014

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## Designing Innovative Solutions for Programs Supported by the Administration for Children and Families

OPRE Report No. 2014-16a  
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## OVERVIEW

The Behavioral Interventions to Advance Self-Sufficiency (BIAS) project is the first major opportunity to use a behavioral economics lens to look at programs that serve poor and vulnerable people in the United States. Sponsored by the Office of Planning, Research and Evaluation of the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services, the BIAS project aims to learn how tools from behavioral economics can improve the well-being of individuals and families served by programs that ACF supports. Many human services programs require clients to make active decisions and follow a series of steps in order to reap a benefit — from deciding to apply, to completing forms, to arranging for child care. Program designers often assume that individuals will carefully consider options, make decisions that maximize their well-being, and diligently follow through. Behavioral economics, which combines insights from psychology and economics, may help explain why these assumptions are not always borne out.

By describing work in three sites, this report illustrates how the BIAS project draws on the principles of behavioral economics to design solutions for ACF programs. In partnership with program administrators, the BIAS team uses a method called “behavioral diagnosis and design” to delve into problems that program administrators have identified, diagnose potential bottlenecks that may inhibit program performance, and identify areas where a relatively easy and low-cost, behaviorally informed change might improve outcomes.

Working with the Texas Office of the Attorney General’s Child Support Division, the BIAS team explored ways to increase the number of incarcerated non-custodial parents who apply for a modification of their child support order, with the goal of preventing further accrual of child support arrears. The project team also engaged with the Illinois Department of Human Services and one of its job search contractors to identify behavioral interventions that could help increase the rate of engagement in job search assistance among clients who receive Temporary Assistance for Needy Families. Finally, work with the National Domestic Violence Hotline (NDVH) focused on reducing the number of callers who reach a hold message but hang up before talking to an NDVH staffer.

### Key Findings

- The behavioral diagnosis and design process provides a means of identifying and addressing key reasons that programs may not be performing to expectation. The process can uncover behavioral bottlenecks that are amenable to behavioral solutions. It may also identify structural issues, such as a need to hire more staff, which are often outside the scope of the BIAS project.
- The diagnosis process encourages program designers to step back and examine multiple possible explanations for underperformance before embracing a particular theory or solution. This may improve the likelihood of success of any behavioral intervention.

As the project moves forward, the BIAS team will continue to work with public officials to design and apply behavioral interventions in ACF program areas to generate new ways of tackling problems. Promising interventions will be tested using rigorous research designs, employing experimental methods to reliably determine the impact of an intervention. Future publications will report the impacts of these interventions.

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# EXECUTIVE SUMMARY

Insights from behavioral economics, which combines findings from psychology and economics, suggest that a deeper understanding of decision-making and behavior could improve human services program design and outcomes. Research has shown that small changes in the environment can facilitate behaviors and decisions that are in people's best interest. For example, a change in the way choices or requirements are worded may elicit greater self-control or increase the likelihood of making positive choices.<sup>1</sup> However, there has been relatively little exploration of the potential application of this science to complex, large-scale human services programs.

The Behavioral Interventions to Advance Self-Sufficiency (BIAS) project, sponsored by the Office of Planning, Research and Evaluation of the Administration for Children and Families (ACF) within the U.S. Department of Health and Human Services, is the first major opportunity to use a behavioral research lens to examine programs that serve poor and vulnerable populations in the United States. The project's goal is to learn how tools from behavioral economics, which is part of the broader field of behavioral science and is gaining recognition in academic and policy circles, can improve the well-being of individuals and families served by programs that ACF supports.<sup>2</sup> This report describes the application of behavioral economics in the early stages of the BIAS project. It provides an overview of the field, presents an approach to applying behavioral economics to human services programs, and shares insights from three case studies in the BIAS project.

## Broad Lessons from Behavioral Economics

Behavioral economics generally aims to provide a representation of human behavior that is more psychologically realistic than the models of "rationality" constructed by traditional economics — that is, models that presume individuals will use all available information and make the best decisions in order to get the greatest benefit.<sup>3</sup> The field has organized its findings in a variety of ways, and there is no singular framework. Some researchers have focused on the "psychology of scarcity," which posits that the same way a muscle becomes fatigued and inefficient with repeated use, the human capacity for attention, cognition, and self-control is limited.<sup>4</sup> Three behavioral economics principles that are associated with the psychology of scarcity are described below, along with an explanation of how they apply to the BIAS project.

First, *cognitive resources are limited and can be overwhelmed*. Because of inherent limits on cognitive ability, people "economize" on cognitive resources when making decisions. They rely when possible on fast, intuitive thinking, as if they must reserve deliberative thinking for special situations. As a result of this "limited cognition," an abundance of information can, paradoxically, impair understanding.<sup>5</sup> Issues associated with the limits of cognition may be especially important to human services programs, where beneficiaries must often participate in detailed orientations about rules, responsibilities, and procedures.

Second, *attention is a finite mental resource*. "Spending" this resource to perform one difficult task reduces one's ability to "spend" attention on other tasks.<sup>6</sup> Behavioral research has also shown that people regularly

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1 See Thaler and Sunstein (2008) and Kahneman (2011) for an overview.

2 The term "behavioral economics" is used interchangeably with "behavioral science" in this report.

3 The field of behavioral economics started out by cataloguing violations to the "rational actor" model. See Thaler and Sunstein (2008).

4 See Mullainathan and Thaler (2000) and Datta and Mullainathan (2012).

5 Iyengar and Lepper (2000).

6 See Kahneman (1973, 2011).

forget, or neglect, to do important tasks whose benefits far outweigh their costs.<sup>7</sup> In human services programs, like programs in other areas, clients must often be attentive to program schedules, deadlines, and paperwork requirements. Limited attention may explain why, in some instances, clients fail to meet these requirements.

Third, *exercising restraint depletes a person's available stock of self-control*. Experiments confirm that people have a limited amount of self-control at any moment in time. This means that exercising restraint in some way (for example, resisting tempting food, avoiding a cigarette, or saving money) actually depletes a person's available stock of self-control. These limits on self-control explain why people sometimes fail to follow through on decisions they have made, and why minor inconveniences can lead people to abandon their goals.<sup>8</sup> To the extent that programs in human services, like other programs, require people to follow plans or to undertake actions that will generate a reward in the future, the limits of self-control may help explain why these actions are not always completed.

## From Theory to Application: 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 behavioral principles.<sup>9</sup> In this approach, program administrators and researchers analyze each step in a program's process to identify possible “bottlenecks” where the program is not achieving its desired outcomes. Then, adopting the perspective of the program's clients (and sometimes its staff), the team searches for possible *behavioral* reasons for the bottlenecks — those related to decision-making processes and action — and tests the effects of behavioral interventions.

As depicted in Figure ES.1, the behavioral diagnosis and design process comprises four phases: defining the problem, diagnosing the possible reasons for the problem, designing an intervention, and testing the intervention. While the figure suggests a linear path, the ideal process is iterative, allowing for multiple rounds of hypothesis testing.

The first step in the process is to define the problem in terms of the desired outcome, without presuming particular reasons for the cause. That is, the BIAS team relies on data (both qualitative and quantitative) so as not to be influenced by *a priori* assumptions about how systems work or how the people within them function.

The BIAS team then collects both qualitative and quantitative data to explore and diagnose the possible reasons for the identified problem. The data needed for behavioral diagnosis are specific to the program area and context. Qualitative data usually include findings from interviews with program staff and clients, as well as program documents, such as annual reports and client intake forms. Generally, quantitative data include statistics on the number of clients served and the size and nature of the identified problem. Data from a management information system can be used to search for correlations among client characteristics, program inputs, and outcomes.

The data guide the team in developing hypotheses about the behavioral reasons for participant outcomes. For example, in a multistep process, the data may show that participation wanes or errors spike at particular steps in the process. Researchers focus their investigation on understanding the decision points and actions that directly precede these steps to uncover the behavioral bottlenecks that may exist. Then they attempt to see these actions through the eyes of participants and staff to understand how these key actors in the process perceive their actions and the choices in front of them. Context and circumstances are other key considerations.

The design stage comes next. Theories about why bottlenecks occur help the team generate proposals for designing behavioral interventions to address them. In some cases, a single intervention may address several hypothesized bottlenecks. Still, it is important to have a clear theory of change — a logical, step-by-step explanation of the path from the hypothesized problem to the possible solution — because an intervention may be effective at addressing one behavioral issue, but have no effect on another.

Finally, testing behavioral interventions with rigorous scientific methods is a crucial step in the behavioral

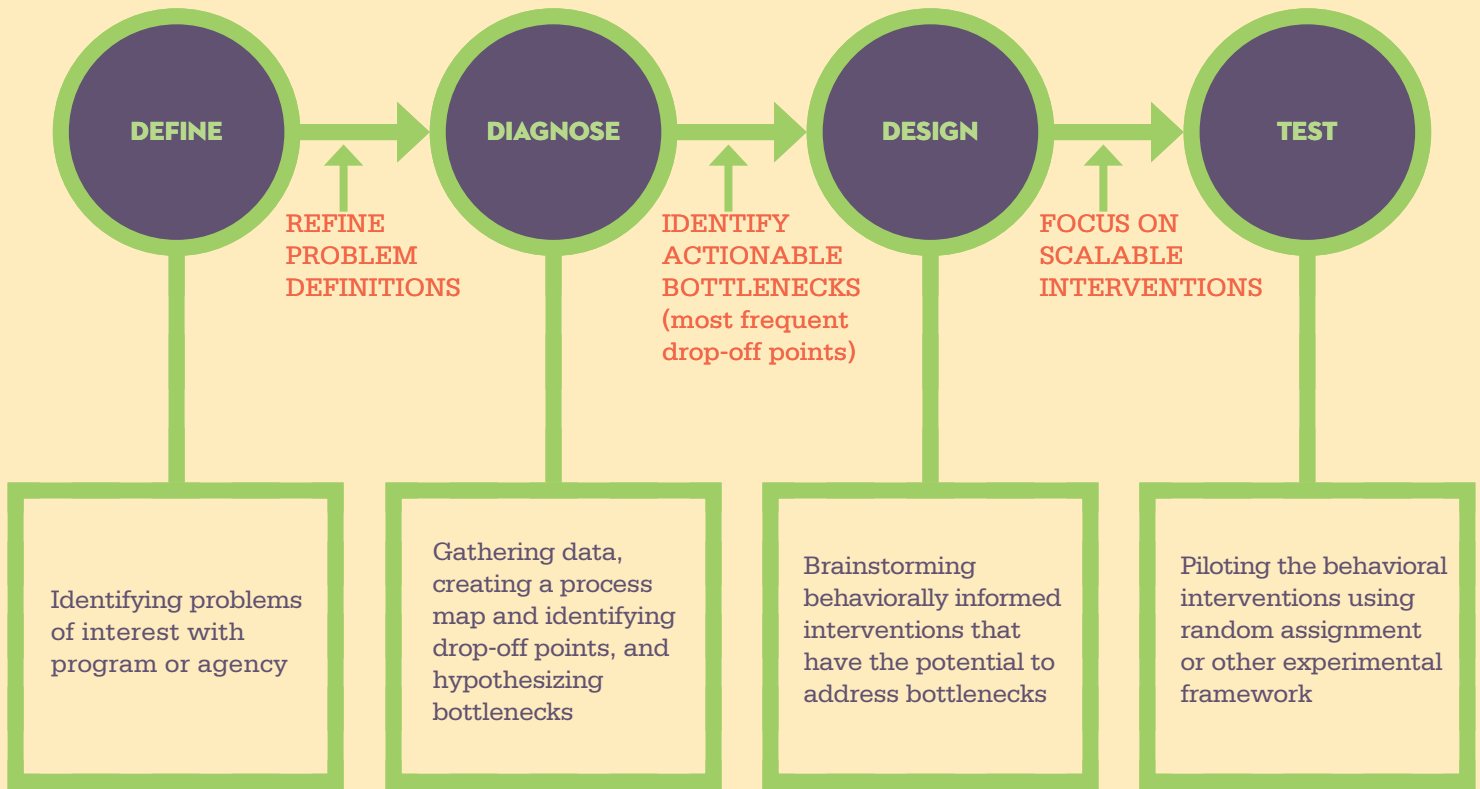
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7 See Choi, Laibson, Madrian, and Metrick (2004).

8 See, for example, Bettinger, Long, Oreopoulos, and Sanbonmatsu (2009).

9 The behavioral diagnosis and design process that is presented in this report was adapted for the BIAS project from a methodology, also called behavioral diagnosis and design, that was developed by the nonprofit organization ideas42 for applying insights from behavioral economics to improve programs and achieve impacts when programs are expanded and brought to scale.

**FIGURE ES.1**  
**THE BEHAVIORAL DIAGNOSIS AND DESIGN PROCESS**



SOURCE: This figure was adapted from a figure created by ideas42.

diagnosis and design process. Under the BIAS project, most behavioral interventions will be tested using a random assignment design, where some portion of a given sample will receive the intervention, and the rest of the sample will not receive the intervention but will continue with “business as usual.” The difference in outcomes between the two groups is the intervention’s effect (if any), or its *impact*. Such randomized controlled trials are considered the most rigorous form of evaluation, and the most reliable way to detect the impact of an intervention.

In sum, the behavioral diagnosis and design process aims to connect the hypothesized problem, behavioral bottleneck, and design solution together in a coherent way. The sections that follow describe applications of that process to three early BIAS projects.<sup>10</sup>

### **Increasing Incarcerated Noncustodial Parents’ Applications to Modify Their Child Support Payments**

The average incarcerated noncustodial parent leaves prison with more than \$20,000 in unpaid child support, which poses a serious barrier to reentering society and securing regular employment after release.<sup>11</sup> Additionally, these individuals are typically unable to meet most of their monthly financial obligations because they are unlikely to have either earnings or income while in prison. This inability to make child support payments, in turn, affects the state child support agencies’ federal performance outcomes. As such, the majority of states have adjusted their laws to allow incarcerated noncustodial parents to apply for modifications to their child support orders.<sup>12</sup>

<sup>10</sup> Behavioral economics terms appear in bold face and are defined throughout this Executive Summary; select behavioral terms are defined in greater detail in the Appendix of the full report.

<sup>11</sup> Thoennes (2002); Office of Child Support Enforcement (2012a); Council of State Governments Reentry Policy Council (2005).

<sup>12</sup> However, child support enforcement laws and policies vary by state, and in some states incarceration is viewed as a type of “voluntary unemployment.” See the Child Support Fact Sheet Series on “Realistic Child Support Orders for Incarcerated Parents” (Office of Child Support Enforcement, 2012a, 2012b).

The Family Initiatives Section within the Texas Office of the Attorney General's (OAG's) Child Support Division operates a small program, which was launched several years before the BIAS project began, that invites select incarcerated noncustodial parents to apply for a modification of their child support orders. Inmates who participate in the program can apply for the modification by mail, based on the substantial change in their financial circumstances. The OAG sends letters to these inmates informing them of the option to apply for an order modification and providing instructions on how to initiate the process. Once inmates receive a letter from the OAG, they must complete the application, request an appointment, and meet with the prison's law librarian. The law librarian notarizes the application and the inmate mails it back to the OAG. Despite the inmates' apparent need for order modifications, the response rate to the OAG's offer has been low. Only about 31 percent of incarcerated noncustodial parents who were sent letters by the OAG in spring 2011 had submitted a modification form a year later.<sup>13</sup>

### Hypothesized Bottlenecks and Behavioral Concepts

Several potential drop-off points exist between the time when inmates receive a letter from the OAG and the time when they submit a completed application. The hypothesized bottlenecks that might cause this drop-off are discussed below.

**Bottleneck 1: The inmate receives the letter, but does not open it, or opens the letter but chooses not to read it.** The **deliberation costs** — the costs of making a decision, in time or mental effort — may be too high to open and examine the letter. Furthermore, the OAG logo on the envelope may elicit the **ostrich effect** — the tendency to avoid information one does not wish to know — because the inmate expects the letter to contain unpleasant information about financial obligations.

**Bottleneck 2: The inmate reads the letter, but does not understand it.** The OAG's standard letter is written at a reading level that may be too advanced for the average inmate. Unclear or difficult language would increase the inmates' **cognitive load**, or demands on their mental resources, decreasing the likelihood that any of them would complete an application requesting an order modification.

**Bottleneck 3: The inmate reads the letter but decides not to act.** Incarcerated noncustodial parents experience the benefits of receiving a reduction in their child support order only after they are released from prison, which could be several years in the future. They may find it difficult to invest effort in a task that will not yield an immediate benefit.

**Bottleneck 4: The inmate decides to act, but does not schedule an appointment with the law librarian.** A number of **hassle factors** are associated with scheduling an appointment with the law librarian and completing an application that requires detailed information. The inmate may also forget to schedule the appointment because of cognitive load.

**Bottleneck 5: The inmate may make an appointment to meet with the law librarian, but fail to show up for the meeting.** Once the appointment time arrives, the inmate may not be in the same state of mind as when the appointment was made, reflecting a **hot-cold empathy gap**. That is, the self who intended to complete the application may have been in a different emotional state from the self who must actually go to the appointment and fill out the form.

**Bottleneck 6: The inmate attends the appointment, but does not successfully submit the application.** In order to complete the application, the noncustodial parent must supply various types of information, including work history and child support order number(s). Obtaining this information may become a hassle factor that impedes completing the application.

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13 Authors' calculations are based on administrative data provided by the OAG.

## Implications for Intervention Design

The BIAS team proposed a package of behaviorally informed changes to the OAG application process to address the hypothesized bottlenecks that are described above, which will be evaluated using a random assignment research design. Incarcerated noncustodial parents who were identified as eligible for the intervention were randomly assigned to receive either the standard letter and related materials from the OAG (the control group) or revised materials, described below, that were created for the intervention (the treatment or program group, referred to as the BIAS group).

### Teaser Postcard

As part of the BIAS intervention, one week before sending the letter and application, the OAG mailed a postcard to inmates in the BIAS group notifying them that they could apply for a modification in their child support orders. The purpose of this postcard was to reduce the number of potential applicants who disregarded the letter they received one week later. The teaser postcard could influence the decision through the **mere-exposure effect** — increasing the recipient’s awareness of the offer before sending the formal letter.

### Revised Modification Packet

The application packet that the OAG routinely mails to incarcerated noncustodial parents who are selected to participate in the order modification program consists of (1) a letter that explains the application process for requesting a modification of child support orders, and (2) an application, which the interested recipient must complete and mail back to the OAG. The letter and application that were sent to the BIAS group were substantially revised.

First, the BIAS materials were printed on blue-colored paper so they would be distinct from other pieces of mail, with the hope that they would stand out in the reader’s mind. In addition, the BIAS group received a letter that was written at a lower reading level than the one the OAG usually sends and that was graphically clearer and simpler (incorporating, for example, features like a checklist, bold headings, and so forth). This more readable letter may help incarcerated parents understand how modification can help them, and may reduce the cognitive load associated with completing the application. The BIAS letter also sought to assert a positive social influence by noting that “other parents” had had their child support orders reduced to as low as zero. This may increase the inmate’s confidence that a modification is within reach.

The BIAS materials also included a checklist with “four easy steps” that inmates must take to modify the order. This was designed to help the recipient overcome the hassle factors that are associated with applying for a modification. In addition, Child Support staff pre-populated the BIAS group’s forms with information that the OAG already possessed, including the child support order number, monthly order amount, and number of children on the order, so the applicant would not have to supply it.

Finally, in the standard OAG packet, it may not be clear to the inmate what needs to be completed and what does not. For example, the OAG’s letter refers to the Affidavit Form as the “application,” but the Affidavit Form is not labeled as such. The BIAS group received the application form and the Affidavit stapled together as one packet, with a cover letter clearly describing the contents.

### Reminder Postcard

If members of the BIAS group did not return an application to the OAG within one month, they were sent a follow-up postcard with a reminder to submit the application. This follow-up served as a **nudge** for those who had been meaning to request a modification but had not yet done so, forgot to do so, or lost the original letter. In addition, the reminder postcard was **framed** to encourage those inmates who had decided not to fill out an application to reconsider their decision.



The intervention components described above aimed to increase the number of complete applications *submitted* for modification. Several additional steps are needed before an applicant can actually *receive* a modification, which involve Child Support field office review and a court hearing.

## Increasing Engagement with Job Search

One of the primary goals of Temporary Assistance for Needy Families (TANF) is to increase participants' self-sufficiency through work. Most states fund job search programs for participants in safety net programs such as TANF. Beneficiaries face sanctions if they fail to participate in required work activities, but engagement in job search programs is often quite low.<sup>14</sup> When TANF recipients do not satisfy their job search requirements, they risk a cut-off of aid and economic instability for their families,<sup>15</sup> and states risk missing annual work participation rate targets that are mandated by the federal government under the TANF block grant.<sup>16</sup>

The BIAS team, in partnership with Asian Human Services (AHS) and the Illinois Department of Human Services (DHS), hypothesized that increasing clients' engagement with job search could lead them to become job-ready more quickly, attend a higher percentage of mandatory job search sessions, apply to more full-time jobs, and, ultimately, find regular employment at a higher rate than otherwise.

At AHS's Work First program, clients participate in job search until one of several outcomes occurs: they are placed in a subsidized work experience,<sup>17</sup> they find an unsubsidized job, they are terminated for noncompliance, or the contractor requests that the client be reassigned to a different service provider because of missed meetings or failure to achieve the mandatory number of hours of job search.

## Hypothesized Bottlenecks and Behavioral Concepts

The review of program procedures and materials, as well as discussions with program administrators and clients, suggested three psychological bottlenecks that could apply to AHS's services and staff.

**Bottleneck 1: Clients may think of AHS and the welfare system on the whole as punitive and uncaring.** If clients enter AHS with negative beliefs and feelings about welfare agencies, it could color their view of the agency and their interactions with it. In addition, the way in which AHS presents information could affect the clients' perception of that information. For example, telling clients that they must meet their hours or they will face termination from the program is different from telling them that it is important to meet their hours so they can work toward their goal of finding full-time employment. The former message is more likely to engender negative feelings among clients about their job search.

**Bottleneck 2: Clients may see job search as a passive activity and not expect a successful outcome.** Job search is an active, purposeful process that involves developing application materials, seeking out job opportunities, and submitting applications. Clients must understand this throughout the process, because if they see AHS as an extension of previous programs that did not work for them, they may expect to fail again.

**Bottleneck 3: Clients may not have the cognitive resources to fully engage with the information presented during the orientation.** All human beings have a bounded capacity to process, understand, and recall information, especially if it is conveyed in complex ways. Even if clients understand the information as presented, they may not remember it all or they may not recall it when they need it. Furthermore, research shows that the pressure of negotiating life under conditions of poverty places a particularly high toll on cognitive resources, as people often need to make many trade-off decisions to manage their lives with limited financial resources.<sup>18</sup>

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14 In 2011, 16 states withheld the entire family benefit for the first sanction and 45 states either withheld the entire family benefit or closed the entire case in the most severe sanctioning situations (Kassabian, Whitesell, and Huber, 2012).

15 Hamilton et al. (2001); Michalopoulos and Schwartz (2000); Navarro, Azurdia, and Hamilton (2008).

16 As of 2011, 50 percent of a state's single-parent caseload was required to participate an average of 30 hours a week. Two-parent families were required to participate at a rate of 90 percent for an average of 35 hours a week (Kassabian, Whitesell, and Huber, 2012, p. 97).

17 Subsidized employment provides income support to disadvantaged groups and is intended to improve their employability by placing them in a temporary work activity until they can find a regular, unsubsidized job.

18 Mullainathan and Thaler (2000).



## Implications for Intervention Design

A number of behavioral interventions might address the hypothesized psychological bottlenecks in AHS's Work First program. The intervention ideas discussed with AHS fall into two categories: (1) operational modifications, and (2) staff training. This section discusses two operational modifications: **priming successful identity** and overcoming **limited cognition**.

### Priming Successful Identity

Every person carries around a number of overlapping and conflicting identities or roles, such as worker, parent, daughter, intellectual, and so forth. The way people feel and act depends on which identity is active, and any given situation has a strong influence on which identity emerges.<sup>19</sup> Program staff can encourage desired behavioral outcomes by drawing on identity priming — for example, by emphasizing an individual's strengths or successes.

Research shows that asking clients to think and talk about a time when they succeeded can activate identities that inspire and motivate them to take action toward their goals.<sup>20</sup> It would be wise to incorporate this approach into the process just before an important action is supposed to occur — for example, before the client fills out a job application or goes on an interview — or to do it on an ongoing and regular basis during the program. This same insight can be applied to the design of written materials and forms to make them more positive in frame, and to avoid activating client identities that are related to dependency or inadequacy.

### Overcoming Limited Cognition

Important strategies for overcoming a person's limited cognition are to simplify processes, incorporate agendas that provide a roadmap to upcoming events, specify next steps in clear and attainable goal statements, and use reminders. These devices serve to direct attention to the information and action steps that are most important and are relatively easy to incorporate into the orientation and client meetings with case workers.

One overall insight from the field of behavioral science is the power of the natural tendency to believe that human behavior is driven in a consistent way by character rather than by the situation. This tendency, called the “fundamental attribution error,” is pervasive despite research in social psychology that convincingly shows that this interpretation of behavior is incorrect.<sup>21</sup> Awareness of and sensitivity to the fundamental attribution error is important for practitioners, as their actions and words can influence a given situation or the overall environment in small ways that could ultimately have meaningful effects on participants' behavior. In other words, small changes can generate large results. For example, starting job search activities immediately, establishing goals during the first job search session, and emphasizing positive identities in materials and verbal communication may all matter in ways that are currently overlooked.

## Increasing Willingness to Wait: The National Domestic Violence Hotline

Domestic violence is a major public health and social policy issue: 25 percent of women and 7 percent of men are victims of domestic violence at some point in their lives.<sup>22</sup> The National Domestic Violence Hotline (NDVH) addresses this problem by providing crisis intervention, information, and referrals via its 24-hour telephone hotline. Additionally, NDVH provides back-up support for several state hotlines and services for entire states that do not have the resources to operate their own hotlines. In the year ending August 31, 2012, NDVH received 275,499 phone calls, an average of more than 750 calls each day.<sup>23</sup>

The BIAS team worked with NDVH to minimize the number of callers who hang up before reaching an advocate (an NDVH staffer). When an advocate does not answer a call before four rings, a prerecorded message indicates that the hotline has been reached and advocates are busy handling other calls; the message repeats every 35 seconds, with silence in-between messages, while the caller is waiting on

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19 Ross and Nisbett (1991).

20 Hall (2008), Part 3.

21 Ross and Nisbett (1991).

22 National Coalition Against Domestic Violence (2007a, 2007b). In this report, the terms “domestic violence” and “intimate partner violence” are used interchangeably.

23 Authors' calculations using administrative data from NDVH.

hold. By NDVH's definition, "abandonment" occurs if the caller hangs up after reaching the first message; these callers are presumed to be an important part of the target group that NDVH aims to serve. Hotline staff view the failure to serve such callers as a lost opportunity to address an unmet need.

### Hypothesized Bottlenecks and Behavioral Concepts

The waiting experience for NDVH callers has important implications for whether or not they receive help. Many callers hang up while on hold, and once lost, they may never call back and receive the assistance they sought. The BIAS team hypothesized that three potential behavioral bottlenecks were associated with the caller's experience of waiting.

**Bottleneck 1: Calling NDVH is likely to be stressful and emotionally painful because of the reason for the call, and waiting on the line in silence may trigger fearful thoughts and the stress of waiting. Present bias** — the tendency to focus on short-term preferences (like avoiding the **stress of waiting**) rather than long-term benefits (like reaching an advocate) — and cognitive load may exacerbate the caller's distress. If waiting on the line is stressful, this feeling consumes enough attention to trigger momentary cognitive load that makes it even harder to refocus on the long term.

**Bottleneck 2: Callers do not know how long they will be waiting, and the uncertainty may make them more likely to hang up.** The outgoing message does not provide a **reference point** to help callers estimate their expected wait time, which may trigger **status quo bias**, or the belief that the future will be much like the present — that is, if they are waiting now, they will continue to wait indefinitely, which increases the likelihood that they will hang up.

**Bottleneck 3: Unexplained waits seem longer than explained waits.** The unexplained nature of the wait increases the stress of waiting, making callers more likely to hang up. In addition, when thinking about other experiences, callers are more likely to remember calls when they waited on hold for a long time rather than calls when the hold time was short and reasonable, because highly emotional memories are generally more available than unemotional memories.

### Implications for Intervention Design

The application of behavioral diagnosis and design to the NDVH call center process suggests that the hotline's outgoing message should emphasize why callers are experiencing a wait and that it is worth waiting for an advocate. With its current phone system, NDVH does not have the capability to give real-time expected waits, but the outgoing message can give averages or simply keep the expectation general: "You may have to wait a few minutes for an advocate, but once we pick up we will work with you to find answers and resources for you." Additionally, since expectations can lead a caller to hang up at any time during the call, it is preferable to place a supportive outgoing message early in the call.<sup>24</sup>

In addition, while callers may understand that they are waiting because other callers are ahead of them, this explanation can be made explicit. The experience of waiting becomes tolerable, and the stress of waiting is decreased, when wait times are explained in a way that is seen as fair and justifiable.<sup>25</sup> In addition, the explanation of the wait time provides an opportunity to reinforce that callers are not alone. After all, the existence of a queue means that other people are facing similar problems, which offers a chance to leverage **social norms** to increase the perceived desirability of staying on the line.

The power of behavioral science as a policy tool lies in its ability to shed fresh light on familiar problems and suggest innovative ways to tackle them. The work with NDVH is illustrative, as conventional approaches would address the resource limitations — for example, by hiring additional advocates to answer calls. However, in a period of limited budgets, programs will need to find creative and low-cost ways to serve clients better. The BIAS team will rigorously test the effect of a message

24 Maister (1985) and Voorhees et al. (2009).

25 Maister (1985).

intervention that bundles several of the above variations (most of which involve managing the perception of wait time) in order to determine whether hang-ups can be managed in this low-cost, easily implementable way.

## Can Behavioral Economics Be Effectively Applied to Human Services?

The BIAS project is still in its early stages of pilot-testing behavioral interventions using the rigorous methodology of random assignment. Only when tests of promising interventions have been completed will the team be able to speak authoritatively about the impact of these behavioral interventions on human services programs. Based on the existing literature, the effects of BIAS-style interventions are expected to be moderate in size but meaningful to program administrators because of the relatively large scale they can achieve for a relatively low implementation cost.<sup>26</sup> While it is too early to report impacts, the work to date has generated two broad insights: (1) it is valuable to closely observe a process, and (2) it is important to avoid premature solutions.

### The Value of Close Observation of Process

The detailed consideration of the process by which services are offered has been shown to be a valuable exercise in its own right. With so many competing demands, program administrators often do not have the time to look closely at the way a program is being implemented after it is launched. As a result, administrators may rely on assumptions about what is happening in the field, and be surprised to discover the reality. As disorienting as this can be, it can lead to critical breakthroughs. In the experience of BIAS to date, simply looking closely at a program from the clients' and frontline staff's point of view can be very powerful, in terms of evaluating the processes against the ultimate goals of the program. It is particularly valuable to do this from a behavioral perspective — meaning in a way that focuses on decisions and actions that may be amenable to nudges — because this narrows the focus of observation to the kinds of bottlenecks that do not require substantial amounts of funding to fix, and points to some interventions that can be tested.

### The Importance of Avoiding Premature Solutions

The BIAS team has learned to proceed systematically through the four phases of behavioral diagnosis and design in order to avoid jumping prematurely to intervention ideas without fully understanding the causes of hypothesized bottlenecks. This understanding comes from mapping the process from various points of view. It is tempting to immediately apply behavioral solutions that are relatively inexpensive and easy to implement. However, it is important to link the intervention idea to the possible psychological or behavioral reasons for the bottleneck, to the extent possible, because otherwise the intervention may be ineffective or even produce negative results.<sup>27</sup> That being said, the risk of misapplying behavioral economics to programs is mitigated when the program designers are engaged in ongoing performance monitoring or evaluation, and when they approach behavioral design as an iterative process — that is, a process that is repeated until a successful solution is found. Because behavioral diagnosis can lead to several hypothesized psychological bottlenecks and each one may be associated with more than one potential behavioral solution, this process should be seen as routine rather than as a one-time undertaking. This perspective embraces creative, client-centered approaches to service delivery.

## Next Steps for the BIAS Project

Behavioral economics provides a new way of thinking about human services program design and a potentially powerful set of tools for improving program outcomes. The central insight of this science is that human services programs will be more effective if they take into account the psychological and behavioral tendencies that define human decision-making. The BIAS team will complete pilot tests of behavioral interventions in programs that are funded by the Administration for Children and Families in the areas of TANF, child care, child support, and domestic violence. Each pilot is being evaluated rigorously. Results will be published as they become available to further inform this burgeoning field.

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<sup>26</sup> Allcott and Mullainathan (2010).

<sup>27</sup> See Riccio et al. (2010), p. 109, and Bronchetti, Dee, Huffman, and Magenheimer (2011).

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