Using Incentives to Increase Engagement and Persistence in Two-Generation Programs:

A Review of the Literature with Key Insights

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Overview

Two-generation programs aim to improve parent and child outcomes by providing services to parents and their children simultaneously. To maximize their success, programs need to recruit parents to participate and sustain participation over an extended period. Incentives are an underutilized tool for maintaining family engagement in social service programs.

Human service and workforce programs targeted to low-income individuals often fail to realize their full potential because they are unable to recruit enough individuals to participate or have difficulty keeping program participants engaged long enough to reach their goals. In recent years, behavioral scientists have provided new insights into some of the factors that might lead to lower levels of program participation and persistence, as well as strategies that might lead to better outcomes. These insights — on decision-making and the motivation behind it — provide two-generation and other human service programs a new lens through which to view their incentive programs and the challenges that low-income families and individuals face in using programs effectively.

An incentive is something that motivates or encourages a person to do something, particularly things that are hard for them to do. Incentives may also provide supplemental rewards that serve as motivational devices for desired actions, decisions, or behaviors. For program designers, incentives are one strategy that can potentially reduce barriers to participation.

AN INCENTIVE IS SOMETHING THAT MOTIVATES OR ENCOURAGES A PERSON TO DO SOMETHING, PARTICULARLY THINGS THAT ARE HARD FOR THEM TO DO.

Incentives have been used in a wide range of settings, including social service and health programs as well as classrooms, to encourage participation and persistence. They show promise in helping to change and shape behavior in other settings, suggesting that incentives are a useful tool to increase attendance and engagement when used appropriately. While incentives are often monetary, they can also include tangible items and non-monetary approaches.

In this paper, we present a summary of the current research on incentives, drawing from several different areas of research including conditional cash transfers, higher education programs, contingency management, health programs, token economies, and business incentives. While incentive studies cover many areas of research, we have identified studies that may be most helpful in illustrating issues to consider in designing incentives for two-generation programs. Together this research provides a framework for understanding factors that influence motivation, decision-making in different situations, and ways that programs may successfully use incentives. We also provide key takeaways for human service programs to inform their own program design. In the Incentives Field Guide, we provide human service programs with guidance on how to develop an incentive program that takes into account the unique needs of the families they aim to serve, the problems they have encountered, and the outcomes they aim to achieve.

Key Takeaways for Human Service Programs

The literature suggests that incentives can be used to promote behavior change, but the results are highly dependent on the context, the behavior being incentivized, and the services that are provided alongside the incentive.

The studies we reviewed demonstrate how incentives remove barriers that keep people from progressing, build interest in a program, activity, or task — when the benefits may not be immediately apparent — or increase the benefit of participating in and completing a program. We offer the following key takeaways for human service programs organized by the most relevant incentive dimension — type and amount, frequency and duration, and what is rewarded. Additional information on each finding is provided on pages 18-20 of this review.

Type & Amount of Incentive

- Non-monetary and small dollar value incentives can work to change behavior (see Finding 1, p. 18)
- Monetary incentives given on a time-limited basis can result in behavior change (see Finding 2, p. 18)
- Incentives should be "right-sized" (see Finding 3, p. 18)
- Programs offering coaching and supportive services may be able to reach harder-to-engage populations (see Finding 4, p. 19)

Incentive Frequency & Duration

- Incentives work best when given close to the desired behavior (see Finding 5, p. 19)
- Present-oriented participants will need more immediate, relevant incentives (see Finding 6, p. 19)
- Programs can successfully end or phase out incentives when intrinsic motivation is high (see Finding 7, p. 19)

What to Incentivize

- Incentivizing desired behaviors leads to improved outcomes (see Finding 8, p. 20)
- Achievement incentives work best in conjunction with other incentives (see Finding 9, p. 20)
- When achievement is the sole focus of incentives, there are a smaller number of successful participants (see Finding 10, p. 20)

Decision-making Under Stress

In order to fully understand when and why incentives work, and for whom, it is important to understand individuals' decision-making processes and how living in poverty impacts their motivation and behavior. Insights on decision-making and motivation from behavioral science and related disciplines provide a framework for thinking about how to design incentives in human service programs.

The field of behavioral economics has combined insights from economics, psychology, and other disciplines to build a more accurate picture of the ways that individuals form intentions and take action.

A growing body of behavioral science research notes that seemingly irrational behavior, such as buying one roll of toilet paper at a time, is actually quite rational and predictable given an individual's circumstances.

Decisions are based on how individuals can best meet their needs, their temporal orientation (which will be discussed at length later in the paper) and on the stability of their preferences over time.[1] Behavioral scientists have found that people make choices based on social norms, heuristics, hassle factors, etc.

An important concept that has emerged from cognitive psychology and has been applied by behavioral scientists is "scarcity;" the term asserts that our inherently limited capacity for attention, cognition, and self-control significantly impacts our ability to make decisions now and for the future.[2] For families living in poverty, the scarcity condition, with its lack of resources (money, time, food, etc.) becomes a main focus. It can take over individual thought processes and inhibit the ability to take advantage of opportunities that could improve future circumstances.[3]

"Bandwidth" is another concept of decision-making that relates to how much information we can handle and process at one time. It refers to finite resources, the capacity to "handle a limited amount of information and activity at one time." While all individuals have limited cognitive capacity, or "bandwidth," a person living in poverty is likely to have the majority of his or her bandwidth occupied by thoughts and actions directed at getting by and meeting their basic needs. This leaves few, if any, resources to focus on identifying and working to achieve long-term goals.

Behavioral science researchers call the reaction to scarcity and the act of harnessing bandwidth "tunneling": whatever is most urgent, whatever unmet need is most pressing, fully captures the mind and crowds out all other concerns, questions, or tasks that would otherwise compete for attention. Scarcity and tunneling can increase attention and focus on areas of immediate need, potentially leading to economically rational decisions in the short-term, at the expense of long-term perspective and benefit.

Research Illuminates Disparity Between Present-Oriented People and Future-Oriented Programs

Research illuminates the disparity experienced by people subsisting with scarcity, when they develop a present-orientation and programs that are future-oriented. Ensuring that they can meet their basic needs — putting food on the table, keeping the lights on, putting a roof over their heads, and keeping their children safe — takes up all of their limited bandwidth and attentional resources. Programs focused on future-oriented outcomes, such as enrolling low-income people in an education or training program, provides the foundation for better jobs with higher pay in the future, but often imposes huge costs (both monetary and non-monetary) in the present.

Behavioral research firm ideas42, an organization whose mission is to help government agencies and non-profits use insights from behavioral science to improve program outcomes, suggests that the burden of change rests with individuals and organizations "who have the power to design programs and systems in ways that take universal human tendencies into account."[5] To that end, ideas42 provides three program design principles: (1) cut the costs associated with accessing benefits and participating in a program; (2) create slack — "an adequate cushion of time, money, attention, and other critical resources" — that makes it more feasible for families to engage in future-oriented activities; and (3) empower families by convincing them that they can effect change in their own lives.

In addition, taking a behavioral approach to address poverty means beginning with three propositions about program participants: (1) context matters: behaviors displayed by someone experiencing scarcity may not seem rational on the surface, but make sense given the individual's circumstances and limited attentional resources; (2) awareness that a program or opportunity exists does not guarantee that participants will engage or take advantage of it; and (3) both monetary and non-monetary costs and benefits drive decisions.

Incentives can be considered as a possible strategy under these design principles and propositions, but they are likely to be most effective if they are considered as one element of an overall strategy to redesign programs taking a behavioral approach. Incentives can also be seen by programs as resources that enable participation by meeting participant needs (like transportation and child care). Decision-making in a state of scarcity needs to take into account not only the long-term benefits, but also the immediate costs of participating and how they will affect other aspects of potential participation.

The Role of Motivation and Incentives

Motivation plays a leading role in determining human service program success. Research indicates that human service programs can use incentives to increase and sustain participants' motivation for doing something they may not otherwise be inclined or able to do, either because they don't see a benefit or because they perceive the costs of participating to be greater than the benefits they will gain. In many cases, the benefits may not be clear to participants; that benefits will eventually outweigh the costs may be too abstract or too far in the future for participants to see.

In order to understand how incentives work, it is important to understand that there are two main types of motivation — intrinsic and extrinsic — that affect individuals' actions in different ways and manifest themselves differently in each person. Intrinsic motivation stems from internal rewards, like feelings of well-being, success, and satisfaction, and is cultivated over time. People with high intrinsic motivation will continue to do tasks even without rewards because they enjoy doing them or feel good about themselves when they accomplish them. Extrinsic motivation originates from something external. For example, a financial reward such as the promise of a performance bonus increases extrinsic motivation because it is using the promise of a monetary reward to encourage someone to do something they might otherwise not be inclined to do. Extrinsic motivators are often thought of as "if, then," since they generally rely on a contingency (e.g., if you meet your work quota, then you will get a raise). One potential issue with extrinsic motivators is that people may want to do something (i.e., have intrinsic motivation to do it), but the reward of an extrinsic motivator may crowd out their intrinsic motivation.

THE ULTIMATE GOAL IN USING INCENTIVES — WHICH ARE EXTRINSIC MOTIVATORS — IS TO INCREASE INTRINSIC MOTIVATION TO ACHIEVE LONG-TERM SUCCESS.

The ultimate goal in using incentives — which are extrinsic motivators — is to increase intrinsic motivation to achieve long-term success. Studies have shown that people with high intrinsic motivation are more successful and report more happiness in their careers long-term.

When working with populations experiencing significant personal and family challenges, programs often need to use extrinsic motivators to initially create buy-in, decrease the costs of participating, and help participants see the benefit of engaging in the program. It is appropriate (and often necessary) to use extrinsic motivators, like monetary rewards, in the short term to reward successes, motivate high-impact behaviors and decisions, and keep participants progressing toward their goals; this leads to a sense of accomplishment, building confidence and a sense of self-efficacy which can help increase extrinsic motivation over the long-term.

When working with a population that may be more present-oriented in response to living in poverty, short-term incentives can be especially helpful as they can create initial buy-in and engagement, while the program is simultaneously building intrinsic motivation through increased knowledge, skills, and abilities. As a way to create buy-in, a program may offer an extrinsic motivator like a gift card to participants for attending meetings in the first month. During those meetings, the program also offers a chance for participants to build and learn new skills, like stress reduction or budgeting, and to increase their social capital through a peer network. These have longer-term payoffs and can bring feelings of increased knowledge and success, which increases intrinsic motivation. In this case, the program simultaneously met the present-oriented participants' immediate needs and its own by getting the participants engaged and giving them a reason to persist.

Studies on Incentives and What They Accomplish

There is no “one size fits all” model to incentives. Rather, they vary on dimensions, design value, and use in various settings — e.g., health, business, education, and human services. However, according to the research, three major components typically make up the design of an incentive program — the type and amount of the incentive, the frequency or duration of the incentive, and the outcomes or behaviors that trigger receipt of the incentive (see Table 1).

TABLE 1

Key Dimensions of Incentives

Type & Amount	Monetary (cash, check, gift card) Non-monetary (certificates, group recognition, praise, encouragement, ability to move on to next level of classes, etc.) Tangible (household goods, food items, clothing) Amount: Generally applies to dollar amounts or tangible value
Frequency/Duration	Any time behavior occurs, weekly, monthly, or at goal completion
What They Reward	Outcomes (goals) or behaviors

Various studies about incentives demonstrate that changes in incentive dimensions can have an impact on extrinsic motivation; well-designed incentives can create buy-in, decrease the costs of participating, and help participants experience benefits for engaging in the program. For example, changing from non-monetary to monetary incentives may increase extrinsic motivation; increasing the time between incentive receipts may lower extrinsic motivation. In our analysis of the relevant literature and programs that have utilized incentives, we will further explore these key dimensions and the impact they have on the efficacy of incentive use.

Conditional Cash Transfers

Conditional Cash Transfer programs (CCTs) have been used to supplement the safety net around the world and are growing in popularity. CCTs "offer cash assistance to reduce immediate hardship and poverty, but they condition this assistance on families' efforts to improve their human capital" in the hope of reducing their poverty over the longer term.[4] These transfers, or incentives, are used in two-generation programs, targeting both adults and children. While programs vary the conditions of CCTs from earning supplements to educational incentives, the transfers noted in our paper served the purpose of reducing poverty by offering monetary resources and helped to build the families' social capital, both now and for future generations.

Family Rewards

One of the most comprehensive CCT programs to date is the Opportunity New York City Family Rewards program (and later the Family Rewards 2.0 project), which was evaluated by the research firm MDRC. As is the case with other Conditional Cash Transfer programs, Family Rewards was designed with both short- and long-term impacts in mind. In the short term, the program hoped to reduce poverty and hardship by providing cash payments that were linked to the completion of specific tasks or achievement of specific milestones. In the long term, the program hoped to increase human capital by tying the cash payments to activities that would eventually lead to better employment and earnings outcomes.[5]

Family Rewards, launched by New York City's Center for Economic Opportunity (CEO), operated as a random assignment, two-generation program offering incentives within three domains: children's education, preventive health care, and parental employment, over a three-year period from 2007-2010. A total of 4,800 families from high-poverty neighborhoods in New York applied to the Family Rewards program, and through random assignment, half were placed in the program group and the other half in a control group, which earned no incentives. The families who applied to be in the program had to have a child in fourth, seventh, or ninth grade, because these are critical transition points in education. The program group was offered a total of 22 incentives across the three domains (education, health, and workforce). In the third year of the project the number of incentives offered was decreased, both to ease administrative burden and reduce complexity.

Family Rewards significantly increased family income (through cash transfers) and reduced poverty while in the program, but it did not significantly impact health outcomes, earnings, or school outcomes. It also did not significantly reduce material hardship after the cash transfers ended. Highlights from the project include the following:

- The project's cash transfers succeeded in reducing poverty and hardship in the short-term. Poverty among the program group was 12 percent lower and severe poverty 11 percent lower than for the control group. On average, household income among families in the program group was 22 percent higher than among the control group while the program was operating. Families in the program group received an average of $8,700 in incentives over three years, with the top 20 percent averaging $13,000.
- The education incentives made the most difference for children who were at or above grade level, especially those who were reading proficient, because they were in the best position to take advantage of the incentives. For students who were performing below grade-level initially, the

incentives were not enough to increase their school performance and graduation rates.

- The families who received the most incentives were, on average, less disadvantaged than other families in the program. These families included adults with more education and employment, higher earnings, and better overall health. This follows the same pattern for students: more incentives were earned, on average, for those who were already positioned to do better.[6]

A second generation of the program (2.0) was tested in the Bronx, New York, and Memphis, Tennessee. Family Rewards 2.0 made significant changes to the incentive design to address issues that the researchers believed contributed to the weak impacts in the initial project. (See Table 2.) While still focusing on the three domains of education, health, and employment, the new model offered fewer incentives that are more targeted and that are paid monthly. The change in the frequency with which the incentives are paid mirrors what we know about learning theory, which emphasizes the need for rewards to be close in time to the desired behavior. The designers of 2.0 also wanted to improve participation for two subgroups that were, at the beginning of the study, the least likely to receive the incentives in the initial project: adults without a high school diploma or GED and students who were not academically proficient.

The new model also added family guidance, where staff members helped families to develop strategies for earning the rewards.6 According to the MDRC evaluation of Family Rewards 2.0, "the revised model, and most probably the more intensive family guidance component succeeded in engaging the types of families who were less engaged in Family Rewards 1.0."6 A final evaluation of the 2.0 program showed that it reduced poverty during the program period and led to improvements in parents' reported feelings of happiness and life satisfaction. Additionally, there was an increase in healthcare participation (including dental visits) and self-reported health status.[7]

TABLE 2

	Family Rewards	Family Rewards 2.0
Number of Incentives	22 potential incentives	8 potential incentives
Payment Frequency	Every 60 days	Every 30 days
Participant Population	Low-income families with children in 4th, 7th, or 9th grade	Adults and high school students whose families received SNAP or TANF
Family Guidance	None provided	Provided every 6 months

Work Rewards

Another Opportunity NYC program evaluated by MDRC, Work Rewards, focused on increasing employment and earnings for families who receive rental assistance under the federal Housing Choice Vouchers Program.[8] Voucher holders face barriers to economic self-sufficiency as higher income triggers a higher rent payment, which some policy experts worry acts as an employment disincentive.8 To improve employment outcomes and increase chances for economic self-sufficiency, the Family Self-Sufficiency (FSS) program provides case management services for voucher recipients and helps build assets and savings for participants. The recipients still pay a higher rent amount, but the amount of the rent increase is diverted to an escrow account maintained by the housing authority. When a family finishes the FSS program by completing their self-sufficiency plan and is no longer receiving cash assistance, they have access to the escrow account funds plus interest earned.

New York City agreed to subject its FSS program to a test as part of Work Rewards. In this demonstration, MDRC compared the outcomes of FSS, an FSS/Incentives model, and an incentives-only model using two parallel, randomized controlled trials. The incentives included cash bonuses that were designed to encourage voucher holders to work full time and complete approved education and training activities.8 The cash incentives were given to remaining participants employed for an average of 30 hours per week for six out of every eight weeks, and for participating in approved training and education activities. A participant could earn a total of $4,800 over two years and this money, unlike the escrow account, was available immediately. The same incentives were also tested without the FSS program to see if the incentives on their own would produce better workforce outcomes.

The following are highlights of the interim findings (the final report will not be published until 2017):

- The FSS and FSS/Incentives programs increased enrollment in education and training courses, but did not result in higher receipt of degrees or certificates.
- The FSS/Incentives program did not have large effects on employment for the program group as a whole. However, for the subgroup of voucher holders who were not working at study entry, it produced large and statistically significant increases in average quarterly employment rates and average earnings (a gain of 45 percent over the control group average).
- Those who did have ongoing contact with the local community-based organizations (CBOs) over the four years of follow up were more likely to be employed than those who did not utilize these services.
- There was a low take-up rate of assistance services provided by CBOs. Over the four-year study period, 40 percent of participants never interacted with the CBOs.
- FSS and FSS/Incentives participants showed more positive financial behaviors (maintaining a checking or savings account).
- Incentives alone did not have a statistically significant impact on employment or earnings. However, in the two years while participants could earn reward payments, household income did increase.

Education Incentives

Incentives are used in educational settings in a variety of ways — to motivate students to perform better, to increase participation, and to promote persistence toward graduation. While incentives have often been studied in K-12 environments, the focus of education incentives in two-generation programs is often on the parents. An increasing number of projects are taking place at community colleges, as they are often the lowest-barrier college settings for low-income students. A number of these projects are focused on increasing persistence because only about one-third of students who start community college get their degree within six years.[9]

The following studies look at different ways to incentivize and motivate students, as well as reduce barriers to graduation. Tools include structured support in developmental education and performance-based scholarships.

Accelerated Study in Associate Programs (ASAP)

In 2007, the City University of New York (CUNY) launched a project aptly abbreviated ASAP to increase and accelerate graduation rates for students taking developmental (remedial) courses who have extremely low rates of completion; only 15 percent earn an associate's degree within three years. MRDC evaluated the Accelerated Study in Associate Programs (ASAP) project, using a random assignment design. ASAP was available to students for up to three years and required full-time attendance. ASAP gave students comprehensive academic counseling, access to employment services, and tutoring; the program also offered a tuition waiver to fill any gap between financial aid and tuition. If students participated in program services, ASAP provided them with subway cards and the use of free textbooks.[10] Students were also encouraged to take developmental classes early on so that they could increase their knowledge base and progress through other classes more quickly. The comparison group did not receive any special services.

ASAP had the largest impact of the community college incentive programs evaluated by MDRC. Highlights include the following (all findings are statistically significant):

- Students in the program group at the Ohio sites showed a higher rate of full-time enrollment (a 17.6 percentage-point increase over the control group).[11]
- ASAP students earned an average of nine credits more in three years than the control group.
- At the end of the study, 40 percent of the program participants received a degree, compared to 22 percent in the control group.
- Twenty-five percent of the program group enrolled in a four-year college in the last semester of the follow-up period, compared to 17 percent of the control group.

These results are especially notable because the program included students with multiple barriers. Research showed that ASAP enabled students to succeed despite multiple barriers by providing an array of services and supports over three years.10 MDRC also notes the importance of requiring full-time enrollment and participation in program services for increasing credit accumulation.[10]

Cash for College

The Cash for College Performance-Based Scholarship (CFC-PBS) program provided aid to almost 5,000 college-bound high school seniors. Two incentives were provided and evaluated via a randomized control design: scholarship disbursement upon proof of college enrollment, and a later payment for meeting the performance requirement of a 2.0 GPA or better in at least six credits. The amount of the total possible incentive ranged from $1,000 to $4,000, depending on which group a student was randomly assigned. The payments were made directly to the students to use as they saw fit; they could be used for books, supplies, or other living expenses, and not just tuition. The incentive was designed to reduce immediate financial burdens for the students.[12]

The program produced positive impacts in a number of areas, including an increase in enrollment, but the increased enrollment only led to a modest increase in the number of individuals completing a degree. Highlights include:

- Eighty-three percent of students received at least one of the potential incentive payments.
- A statistically significant six percentage-point increase in college enrollment, mostly concentrated in two-year community colleges.[13]
- Total average incentive payout was $900.
- A statistically significant improvement in degree receipt — an increase of more than three percentage points over the control group.

Opening Doors

The Opening Doors project was launched in 2003 by MDRC in response to low persistence and completion rates for community college students. The project was the first large-scale random assignment study in a community college setting, focusing on the development of four programs across six community college sites. The four programs included several components: financial incentives (performance-based scholarships), reforms in instructional practices (learning communities), and enhancements in student services (enhanced academic counseling and enhanced targeted services).9 These programs were tested at six sites across four states: Delgado Community College and Louisiana Technical College in the New Orleans, Louisiana, area; Kingsborough Community College in Brooklyn, New York; Lorain County Community College and Owens Community College in Elyria and Toledo, Ohio, respectively; and Chaffey College in Rancho Cucamonga, California.

Opening Doors had some notable successes, though they varied across sites and type of program.

- The Louisiana sites that used a performance-based scholarship model saw significant positive effects; the students got better grades and were more likely to graduate.9
- In the learning communities program at Kingsborough Community College in New York, students in remedial classes were placed in linked courses that built off each other. After two years, the program group had an 8 percent statistically significant increase in credits earned over the control.
- Two colleges in Ohio introduced enhanced academic counseling where students met with a team of counselors at least twice per semester. After meeting with the counselors, the students received a $150 stipend each of the first two semesters. In the second semester, the registration rate among the students in the program group was seven percentage points higher than the control group and they attempted one more credit than the control group. However, the effects dissipated after the program ended.9
- The program at Chaffey College provided enhanced targeted services to students on academic probation. In order to get students back on track, the college offered a student success course that taught life skills like motivation, time management, study skills, etc. Students also met with

counselors and attended the Success Centers, where they received extra help in reading, writing, and math. Initially, only half of the students enrolled in the student success course, and there was no meaningful effect on academic outcomes. Later, the program required that students take the course. This led to a statistically significant increase in GPAs, almost doubling the proportion of students that moved off probation.12

Appendix Table A-1 summarizes the interventions and effects across the study sites.

Contingency Management

Contingency management, originally used in substance abuse treatment, aims to bring about behavioral change by utilizing small incentives on a regular basis to positively reinforce preferred behaviors. Since it can be costly to use monetary incentives, long-term programs often use small, inexpensive prizes ($1-$2 items) or non-cash vouchers that can be saved and cashed in for larger items. Short-term studies or programs, however, often use financial incentives since the treatment is finite, making the cost of providing incentives more manageable. Financial incentives are particularly attractive in substance use models because the researchers find that they activate the same reward system in the brain as addictive behaviors.[14]

Findings from a number of studies show that contingency management programs can be effective for some populations. Some examples, include the following:

- In a 2012 randomized study of 123 patients at three methadone clinics, researchers found that the patients in a contingency management treatment group (as opposed to a traditional substance abuse program with no incentives) remained in treatment significantly longer, had much longer periods of abstinence, and had a significantly lower number of positive drug/nicotine screens.[15]
- A 2015 study of smoking cessation among pregnant women at the University of Vermont used random assignment to divide the 289 participants into two treatments. One group received incentives based on contingencies, while the other group received incentives just for attending the clinic. Between the two groups, 25 percent of the participants were able to completely abstain from smoking. The vast majority (82 percent) of those who abstained were in the contingency group.[16]
- A 2012 study involving 170 HIV-positive patients with cocaine or opioid use disorders used a randomized trial to test the efficacy of contingency management over 24 weeks. This study gave monetary compensation for attendance and completion of assessments to both the control and treatment group ($10 retail gift card per session for attendance, $15-$25 for assessments and blood tests). However, the treatment group also had the chance to draw a card from a prize bowl for each negative drug/alcohol screen and for blood draws indicating adherence to HIV medication regiment. Half of the cards (250) were non-monetary and included encouraging messages. Most of the remaining cards were for small prizes worth $1 (food coupons, toiletries, bus tokens), while 25 cards represented large prizes worth up to $20 (watches, CDs, phone cards). Finally, one "jumbo prize" card was worth $100. The contingency management intervention had a significant positive effect on adherence to medication regimens, and also increased the number of consecutive negative drug/alcohol samples. The researchers note that patients in the contingency management treatment enjoyed doing the draws in groups and were supportive and encouraging of one another.[17]

Token Economies

Token economy systems are very similar to contingency management models, but they are most often used with children in school settings to elicit behavior changes. A token economy refers to a planned reinforcement program where individuals earn tokens for desired behaviors that can be traded for tangible items like snacks or personal items, intangibles such as free time during class, or other reinforcers desired by students.[18] In these systems, teachers or program staff choose desired behaviors that they believe will lead to further engagement and lasting change (i.e., consistent attendance, maintained focus, etc.) and then assign corresponding token values to each behavior, which can be "cashed in" later. A token economy can be an efficient method for targeting multiple behaviors and participants through one intervention.[19]

Potential benefits of a token economy system include:

- Participants or students may feel a greater sense of autonomy in these systems because they are offered choices in what incentive to receive and flexibility in timing of delivery (can get smaller things more often, or can save for larger items).[20]
- Token economies are a good generalized behavior management strategy that can be used both in individual and group settings.[21]
- Research shows that results can be maintained after the token economy system ends. In an education study, results with elementary and middle school students showed ongoing gains up to four years after the intervention ended.[22] Research suggests that phasing out a token economy by decreasing the frequency of rewards gradually may improve the likelihood of maintenance.[19]

Health Behavior Incentives

Incentive programs are being increasingly utilized in the realm of health care to change patient behaviors and promote healthy outcomes. These programs can range from one-time incentives for preventative care to long-term incentives for goals such as smoking cessation, healthy eating, or diabetes management. The Affordable Care Act (ACA) encourages the development of incentive programs, which has led to a growing body of literature on existing and emerging incentive systems in the health arena.

Health care incentive programs vary based on how often an incentive is given, and also the type and magnitude of the incentive. They generally follow a contingency management or CCT model, depending on length and goal of the program. However, they are unique for often setting individualized milestones. Health incentive programs often develop person-centered incentive plans and goals for patients. Rewards are given based on the individual's preferences and needs. This has been shown to increase engagement by allowing individuals to match incentives that will work best for them, and by conveying respect for their preferences and increasing their sense of self-efficacy and intrinsic motivation by offering them control.[23]

Evidence from multiple studies show that health incentives can be effective in changing behavior:

- A review of the health behavior literature showed that economic incentives worked 73 percent of the time, with stronger effects found for simple one-time behaviors than for complex behaviors requiring sustained effort.[23]
- Studies have shown that rewards that are contingent on good behavior help people to refrain from addictive habits in the short term.[14]
- CVS Health tested a smoking cessation program that required participants to pay a "deposit" that they would get back if they successfully completed the program (in addition to a $650 bonus). A second group was offered the bonus with no deposit required. Researchers found that 52 percent of those who paid the deposit quit smoking, compared to 17 percent in the incentive-only group. Dr. Scott Halpern from the University of Pennsylvania explains that this is due to loss aversion: "people don't want to part with their money." Based on this, the company has already implemented a large-scale, deposit-based program for any employees who want to quit smoking.[24]
- A recent study that examines economic rewards for blood donations found large, positive effects for motivating blood donation. The subjects in Switzerland were offered a 5 Swiss franc lottery ticket for donating, causing a 5 percent increase over baseline. In the United States, participants were offered a $10 gift card, which resulted in a 7 percent increase in donations. While no immediate effects on motivation were found, the researchers note that temporary rewards might affect long-term motivation.[25]

Business Incentives

Businesses around the world have used multiple kinds of incentives including bonuses, stock options, pay increases, and goods of smaller value to motivate their workforce. Companies also utilize points systems where employees can accrue points that they cash in for items of varying monetary values. And while many companies continue to use financial and tangible incentives, there is growing interest in the use of non-monetary incentives to increase long-term employee motivation. Studies show that employees value non-financial incentives such as praise from a supervisor, group recognition, and ability to lead projects as much, if not more, than financial incentives.[26]

The literature on the use of incentives indicates that financial incentives motivate employees, but only for a short amount of time, and often with unintended consequences. In many studies researchers found that offering financial incentives for work undermined intrinsic motivation, leading to less productivity and satisfaction in the future.

Several business-related meta-analyses have been done to evaluate the effect of financial incentives and how these incentives may interfere with motivation. In general, they have found these common themes:

1. Monetary incentives do not alter the attitudes that underlie behaviors or create enduring commitment to any action.[27]
2. One of the largest reviews of worker productivity programs (spanning 98 studies) showed that training and goal-setting programs had a far greater impact on productivity than pay-for-performance plans.[27]
3. Over two dozen studies show that people who expect to receive a reward for completing a task do not perform as well as those who expect no reward at all.[27]
4. Economic theorists note that incentives can send negative 'signals,' either that a task is undesirable — "if they have to bribe me to do it, it must be something I wouldn't want to do"[27] — or that the agent is not well-suited for it (and thus needs the additional incentive of a reward).[28]
5. While non-monetary incentives require more time and commitment from management, they make people feel more valued in the company.[26]
6. In work settings, it is acceptable to offer financial incentives for inherently routine tasks that do not require creativity, likely because there is already very little intrinsic motivation to undermine.[29]
7. Incentives can discourage creative and larger-picture thinking because "if-then" contingencies give a prescribed path to a reward and narrow an individual's focus.[29] A 2009 study on goal setting with incentives cites examples of companies narrowly focusing on reaching sales goals while ignoring when products or practices are unsafe. In other words, a hyper-focus on reaching incentive benchmarks can cloud the larger picture.[30]

Key Findings from the Literature

Type & Amount of Incentive

1. **Non-monetary and small dollar value incentives can work to change behavior.** Incentive programs do not necessarily need to use financial or large rewards to engage individuals. Programs offering non-monetary rewards may successfully change behaviors, because these incentives often increase intrinsic motivation. Programs that promote peer groups, recognition of accomplishments, certificates of achievement, and mentoring relationships are able to increase intrinsic motivation at little to no cost. In the City University of New York's ASAP study, students saw huge gains when programs provided access to counseling, employment services, and tutoring. These services connected them to a services and social network and reduced their barriers to success. In a 2010 contingency management study small (up to $1) rewards enabled participants to abstain from substance use longer and be more compliant with their medications. Encouragement from peers in that study's group setting had a positive effect.

2. **Monetary incentives given on a time-limited basis can result in behavior change.** One-time or short-term financial incentives can lead to first or early steps, e.g., the promise of a $10 gift card encouraged participants to show up to donate blood. In contingency management models, participants are given small monetary or tangible incentives on a very regular basis (when they display the desired behavior). These programs are also time limited, and there is no expectation of ongoing financial payouts.

3. **Incentives should be "right-sized."** The incentive amount or value should correspond to the task's difficulty and how long a participant has to wait to receive it. For example, the incentives in Family Rewards ranged from $20 to $600. The larger incentives were reserved for tasks that took more time and effort, whereas one-time behaviors like getting a library card or going to a parent-teacher conference earned significantly smaller rewards. Using incentives with increasing values helps to keep participants motivated to achieve longer-term goals.

4. **Programs offering coaching and supportive services may be able to reach harder-to-engage populations.** Programs like ASAP and Opening Doors targeted high-barrier groups by offering intensive counseling and tutoring components and providing a path to success. Since groups with more barriers may have a harder time earning incentives, coaching can offer support to keep them progressing and provide intrinsic motivation.

Incentive Frequency & Duration

5. **Incentives work best when given close to the desired behavior.** The studies we analyzed demonstrate that incentives provided immediately after the behavior or task are the strongest tools. In contingency management models, participants immediately received rewards for attendance and negative drug screens. The contingency management researchers note that patients enjoyed doing the draws for rewards in groups which were supportive and encouraging of one another. Token economies provided points or tokens that participants later traded for rewards

that fit their needs. This both increased motivation and feelings of self-efficacy since the individuals feel successful when they get the points and are able to choose an incentive that fits their needs. In the ASAP study, which had great success serving high-barrier students, participants were contingently given subway cards and access to free textbooks when they attended counseling sessions, and they demonstrated high participation levels as well as higher academic achievement. While programs will not always be able to follow this model, they should try to provide incentives as close as possible to the related task or behavior. As time elapses between the behavior and incentive, the risk for disengagement increases. Since many low-income participants have multiple or significant barriers, incentives that are given more frequently will have greater relative value to the participant.

6. **Present-oriented participants will need more immediate, relevant incentives.** Multiples studies illustrate that it is vital for programs to both know what participants need and value and deliver these goods or services in a timely manner. Many low-income people have immediate needs to address (like transportation, housing, food security, etc.) Researchers in the Family Rewards study found that giving incentives once every 60 days was not often enough to keep participants motivated; for the 2.0 model they shortened the timeframe to once every 30 days. The Work Rewards demonstration program also found that incentives given in the future were not strong enough motivators for present-oriented participants. The literature on token economies also suggests that rewards given close to the desired behavior are the most effective.

7. **Programs can successfully end or phase out incentives when intrinsic motivation is high.** Program structures differ in how and when they end incentives (and if they do), but studies suggest that programs can successfully phase out incentives when intrinsic motivation is high. The ASAP and Opening Doors programs yielded students who were able to continue in four-year colleges without incentives, possibly because their intrinsic motivation and self-esteem were higher after experiencing the success of passing classes and earning a degree. When participants are given a high level of support by staff and their peer group and have experienced success, they are more likely to be able to persist without incentives.

What to Incentivize

8. **Incentivizing desired behaviors leads to improved outcomes.** Some programs offer incentives for outcomes, some for behaviors, and some for both. As seen in models like contingency management, rewarding the desired behaviors repeatedly will form new habits and often leads to the desired or intended outcomes. By incentivizing good grades (in the 2.0 study) and attendance, Family Rewards led to the outcome of higher graduation rates (and, in fact, the program group had higher attendance and a higher graduation rate for students who entered the program on grade-level). Work Rewards also incentivized enrollment in education and training activities. These participants may have gained skills that they could use in the workforce, whether or not they degree completed a certificate or earned a degree. Similarly, the smoking cessation programs rewarded negative nicotine screenings with the belief that encouraging healthy behaviors would lead to more positive outcomes. Even those who were unable to quit smoking greatly reduced how many cigarettes they smoked per day.

9. **Achievement incentives work best in conjunction with other incentives.** Students tend to do well earning incentives for attending school regularly (as they did in the ASAP study, which provided subway cards and free textbooks for participation). Taking these one-step, concrete behaviors, which are not reliant on cognitive abilities, are also under their direct control. Increases in supportive services also improved student achievement results.

10. **When achievement is the sole focus of incentives, there are a smaller number of successful participants.** As noted above, these types of incentives work well for participants who are already capable but for some reason not taking action, and tend to leave behind those who are less capable or who have significant barriers. The Cash for College program is an example of how to successfully reward behaviors (enrolling in classes) and outcomes (maintaining a 2.0 GPA) simultaneously. This two-pronged approach proved to be effective in multiple studies.

Appendix

APPENDIX TABLE 1

The Opening Doors Programs

Component	Program	Description	Overall Effects
Financial Incentives	Performance-Based Scholarship • Louisiana Technical College – Louisiana • Delgado Community College – Louisiana	Up to $1,000 for each of two semesters if students enrolled at least half time and maintained a "C" or better GPA. Counselors monitored students. Targeted low-income parents.	Students more likely to enroll full-time, persist in college, and earn more credits.
Instructional Reform	Learning Communities • Kinsborough Community College – Brooklyn, NY	Program for incoming freshmen, most requiring developmental English. Linked courses; provided enhanced counseling, tutoring, and a textbook voucher.	Increased number of courses passed and credits earned, and moved students more quickly through developmental English requirements.
Enhanced Student Services	Enhanced Academic Counseling • Lorain County Community College – Ohio • Owens Community College – Ohio	Tested enhanced academic counseling (frequent, intensive contact with counselors) and a $150/ semester stipend.	Modest impact on registration during second semester and first semester after program ended.
	Enhanced Targeted Services • Chaffey College, California	Program for students on probation; linked student success courses to Success Center visits.	Increased credits earned and GPA, and moved students off probation.

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