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BEHAVIOR ANALYSTS IN THE WAR ON POVERTY: A REVIEW OF THE USE OF FINANCIAL INCENTIVES TO PROMOTE EDUCATION AND EMPLOYMENT

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Abstract

Poverty is a pervasive risk factor underlying poor health. Many interventions that have sought to reduce health disparities associated with poverty have focused on improving health-related behaviors of low-income adults. Poverty itself could be targeted to improve health, but this approach would require programs that can consistently move poor individuals out of poverty. Governments and other organizations in the United States have tested a diverse range of antipoverty programs, generally on a large scale and in conjunction with welfare reform initiatives. This paper reviews antipoverty programs that used financial incentives to promote education and employment among welfare recipients and other low-income adults. The incentive-based, antipoverty programs had small or no effects on the target behaviors; they were implemented on large scales from the outset, without systematic development and evaluation of their components; and they did not apply principles of operant conditioning that have been shown to determine the effectiveness of incentive or reinforcement interventions. By applying basic principles of operant conditioning, behavior analysts could help address poverty and improve health through development of effective antipoverty programs. This paper describes a potential framework for a behavior-analytic antipoverty program, with the goal of illustrating that behavior analysts could be uniquely suited to make substantial contributions to the war on poverty.

Keywords

poverty; incentives; education; employment; low-income; welfare

Poverty is a pervasive risk factor underlying poor health. Adults living in poverty have higher rates of a number of chronic health conditions, including diabetes, circulatory disease (e.g., heart disease, hypertension, stroke), certain types of cancer, respiratory disease (e.g., asthma, chronic bronchitis, chronic obstructive pulmonary disease), psychological distress, and difficulties in physical functioning (Blackwell, Lucas, & Clarke, 2014). Existing data show a consistent inverse relation between income and longevity; recent estimates suggest that the life expectancy of the poorest one percent and the richest one percent in the United States differ by 15 years for men and 10 years for women (Chetty et al., 2016). Most

interventions aimed at reducing health disparities associated with poverty have targeted specific health-related behaviors (e.g., cigarette smoking) among low-income adults. Poverty itself could be targeted to improve health, but this approach would require programs that can consistently move poor individuals out of poverty (Silverman, Holtyn, & Jarvis, 2016).

Antipoverty programs generally have been applied on a large scale in conjunction with welfare reform initiatives (Bitler & Karoly, 2015). During the 1990s, the welfare system in the United States underwent major restructuring, which fundamentally changed public assistance programs. The most notable change occurred in 1996 with the replacement of the federal Aid to Families with Dependent Children (AFDC) program—the primary cash assistance program for low-income families—with the Temporary Assistance for Needy Families (TANF) program. This removed many of the federal eligibility and payment rules, which granted states greater control over the design and implementation of their own public assistance programs. Over time, many states introduced a diverse range of welfare-to-work and other antipoverty programs. Several of the most promising programs in the mid-1990s used financial incentives in the form of wage supplements to promote employment among welfare recipients and other low-income adults. Many of these programs took a “work-first” approach, which emphasized quick entry into the workforce (Blank, Card, & Robins, 1999). Subsequent incentive-based programs have taken a “human capital development” approach that seeks to raise long-term earnings potential by promoting participation in education and training opportunities (Mayer, Patel, Rudd, & Ratledge, 2015; Riccio & Miller, 2016).

The incentive-based, antipoverty programs generally had modest effects on targeted outcomes. However, they provide examples of the ways in which financial incentives have been used to address poverty, demonstrate some of the challenges in implementing this type of program on a large scale, and indicate the willingness of governments to use financial incentives in antipoverty programs. This paper reviews research on incentive-based, antipoverty programs that were established and tested by governments and other organizations in the United States. It provides a critique of some of the methodological aspects of the programs that may have limited their efficacy, notably those aspects that did not align with the design features of effective incentive programs that are founded upon basic principles of operant conditioning (Mazur, 2006). Finally, the paper describes the framework of a potential behavior-analytic antipoverty program.

The Use of Financial Incentives in Antipoverty Programs

This section reviews research on incentive-based, antipoverty programs that were established and tested by governments and other organizations in the United States. The research reports reviewed in this section were not published in peer-reviewed literature but rather are articles that were issued by Manpower Demonstration Research Corporation (MDRC), a research institute that implements and evaluates novel antipoverty programs. Reports were selected for review if they used financial incentives to promote education or employment in adults living in poverty.

Wage Supplements to Promote Employment

Beginning in the mid-1990s, four randomized studies were conducted to evaluate programs that supplemented the wages of welfare recipients and other low-income adults. These included Connecticut's Jobs First program, the Minnesota Family Investment Program, Wisconsin's New Hope program, and Texas's Employment Retention and Advancement program. All of the programs offered wage supplements that were intended to encourage work. However, the four programs had different strategies for delivering the wage supplements, which had important implications for their effects on work behavior. The following section and Table 1 provide a summary of the program evaluations.

Jobs First Program—Under the Jobs First evaluation, 4,803 single parents who were applying for or receiving welfare benefits were randomly assigned to a control group or a Jobs First group (Bloom et al., 2002). Under the existing welfare system, control group participants who obtained employment experienced a reduction in their welfare benefits in which they lost \$1 in benefits for every \$1 increase in earnings from employment. This resulted in their total income generally remaining unchanged despite gaining employment. In contrast, Jobs First participants who obtained employment were offered a time-limited (21 months) earned-income disregard, in which 100% of earnings from employment were not counted when calculating welfare benefits. That is, participants who worked could receive the same amount in welfare when employed as when they were unemployed, as long as their earnings from work were below the poverty level. To be eligible for the earnings disregard, however, participants had to enroll in mandatory employment placement services that took a work-first approach. During the four-year study, Jobs First participants were slightly but significantly more likely to be employed (56% vs. 49%) and to have higher average annual earnings (\$6,668 vs. \$6,215) than participants in the control group. However, rates of employment and earnings were low and the program had no significant effect on increasing full-time work (40 hours per week) or higher-paying jobs (\$9.00 per hour). This could be due to the fact that Jobs First incentivized both part- and full-time work and emphasized quick entry into the workforce even if only unstable, low-paying jobs could be obtained (Bloom et al., 2002).

Minnesota Family Investment Program—The Minnesota Family Investment Program was tested in a randomized study that included over 14,000 single- and two-parent families who were applying for or receiving welfare benefits (Knox, Miller, & Gennetian, 2000). Half of the families were randomly assigned to a control group that received welfare support under Minnesota's existing system, and the other half were assigned to a Minnesota Family Investment Program group. Minnesota Family Investment Program participants who obtained employment received a 20% increase in welfare assistance and an earned income disregard in which 38% of earnings were disregarded from cash welfare calculations. Minnesota Family Investment Program participants who did not obtain employment and were on welfare for 24 months (single-parent families) or for 6 months (two-parent families) were required to participate in job-search services. During the four-year study, employment among single-parent families assigned to the Minnesota Family Investment Program was slightly but significantly higher compared to the control group (55% vs. 49%). However, average annual earnings were low and similar between the two groups (\$6,296 vs. \$5,996).

This is not surprising, given that the Minnesota Family Investment Program, similar to the Jobs First program, emphasized quick entry into the workforce and the use of part-time and possibly low-wage work (Gennetian, Miller, & Smith, 2005). Among two-parent families, the Minnesota Family Investment Program did not increase the number of families with at least one parent employed and significantly reduced family earnings compared to the control group (\$13,364 vs. \$14,976). This was an unexpected consequence of the program: in two-parent families, one parent often reduced their work effort while the other parent used the wage supplements to maintain the same level of total family income (Miller et al., 2000).

New Hope Program—The Jobs First and Minnesota Family Investment programs supported the use of part-time, low-wage work that often did not lead to full-time work or higher paying jobs. In light of this, the New Hope program sought to explicitly incentivize full-time work. Under the New Hope program evaluation, 1,362 low-income adults were randomly assigned to a control group or a New Hope group (Brock et al., 1997). New Hope participants were offered monthly wage supplements, subsidized health insurance, and subsidized childcare if they worked full time (30 hours per week). The wage supplements were designed to increase income to the federal poverty level. Thus, absolute amounts varied based on each participant's work hours and pay, household size, and number of earners in the household, but averaged between \$120 and \$130 each month. Participants who were unemployed or employed part-time also were offered time-limited (no more than 12 months) minimum-wage community-service jobs that qualified them for the wage supplement. Participants in the New Hope group had slightly but significantly higher rates of employment during the 3-year program compared to control participants (73% vs. 67%). It appears that this between-group difference was largely driven by the initial uptake of program-provided community-services jobs, which were used by one-third of New Hope participants. While it was anticipated that incentivizing full-time work would lead to higher earnings, the groups did not significantly differ in terms of average annual earnings (Michalopoulos, 2005).

Employment Retention and Advancement Program—The Employment Retention and Advancement program also sought to incentivize full-time work. However, it differed from New Hope in that it offered a wage supplement that could be earned even if a participant's total household income moved above the federal poverty level. Under the Employment Retention and Advancement program evaluation, 5,331 welfare recipients in three different Texas cities (Corpus Christi, Fort Worth, and Houston) were randomly assigned to a program group, which received Employment Retention and Advancement services, or a control group, which did not. Participants in both groups were required to enroll in pre-employment job-readiness services, but enrollment in post-employment support services was voluntary. Once employed, all participants were eligible for an earned income disregard for four months, in which 90% of earnings were disregarded in calculating welfare assistance. After the 4-month disregard ended, participants in the Employment Retention and Advancement group could earn a \$200 wage supplement each month if they worked for at least 30 hours per week and participated in an employment "advancement" activity (e.g., training at work, attending work support groups). A maximum of 12 wage supplements

could be earned by each participant over the course of the entire study (Martinson & Hendra, 2006).

While the structure of the Employment Retention and Advancement program was promising, problems with implementation limited the effectiveness of the program. Average employment rates differed slightly but significantly between the program and control groups at one of the study sites (Corpus Christi = 52% vs. 48%); but not at the other two study sites (Fort Worth = 49% vs. 47%; Houston = 43% vs. 43%). A major limitation of the program was the marketing of the wage supplements. Participants were often told about the wage supplements along with a great deal of other program information. Results from a survey administered to a sample of participants within one year of random assignment revealed that many participants did not know about the wage supplements or did not understand the eligibility requirements. The Corpus Christi program site made efforts to strengthen the marketing and appeal of the wage supplements over time, which may have contributed to the small, yet significant effects at that study site. However, wage supplement receipt rates were still low across all of the sites: approximately 30% of participants ever received a wage supplement at the Corpus Christi site and approximately 20% ever received a wage supplement at the other two sites (Hendra et al., 2010).

Conditional Cash Transfers to Promote Education and Employment

Despite the development and testing of several welfare-to-work and other antipoverty programs in the 1990s, programs that could consistently move poor individuals out of poverty were still unavailable. Beginning in 2007, new antipoverty programs were tested that offered financial incentives to poor families in the form of conditional cash transfers. The programs were designed to reduce current family poverty by delivering financial incentives while reducing future and next-generation poverty by making the incentives conditional on behaviors aimed at improving education, health, and employment (Riccio & Miller, 2016). The following section and Table 1 provide a summary of these programs.

Opportunity NYC–Family Rewards—Opportunity NYC–Family Rewards was the first conditional cash transfer program in the United States. The program was implemented in six of New York City’s highest-poverty communities in a randomized study that included 4,800 families with 11,000 children. Half of the families were randomly assigned to a control group that did not receive incentives; the other half were randomly assigned to receive “Family Rewards.” Family Rewards participants could earn financial incentives over a 3-year period for meeting education-related goals for the children (e.g., school attendance and achievement), for utilizing health services (e.g., medical checkups), and for meeting employment-related goals for the parents (e.g., attending job-skills training and sustaining full-time employment). Participants were offered 22 different incentives, two of which were related to employment. Parents could earn \$300 every 2 months if they worked at least 30 hours per week for 6 out of 8 weeks. If parents completed an approved education or job-skills training course, they could earn another \$300 to \$600 (depending on the length of the course) every 2 months if the parent maintained at least 10 hours per week of employment (Riccio et al., 2013).

Findings showed that a complex conditional cash transfer program could be implemented with thousands of families and children in a large metropolitan area. However, the program had no effect on the employment-related outcomes of the parents. Across the 3-year study, a similar percentage of Family Rewards participants and control participants were ever employed (63% and 65%, respectively), and only about half (51%) of the Family Rewards participants earned at least one incentive for full-time employment (≥ 30 hours per week). After the program ended, many participants were not working, and those who were employed were largely working in part-time, low-wage jobs. Fewer than six percent of the Family Rewards participants engaged in education or training classes, and there were no significant between-group differences in the number of participants with a degree or diploma, trade license, or training certificate at the end of the study (Riccio et al., 2013).

Family Rewards 2.0—Following the original Family Rewards demonstration, a revised version of the program, referred to as “Family Rewards 2.0,” examined whether certain design modifications could improve the intervention. Family Rewards 2.0 differed from the original program in that it had fewer incentive targets (8 instead of 22), placed more emphasis on educating the families about the incentives and motivating the families to earn the incentives, and aimed to deliver the incentives more frequently (every month instead of every 2 months). Parents could earn \$150 every month if they worked at least 120 hours and they could earn \$400 for obtaining a General Education Development (GED) certificate. Family Rewards 2.0 was evaluated in Tennessee and New York using a two-group randomized study. Low-income families (N = 2,400) were randomly assigned to either a control group or a Family Rewards group. Family Rewards participants could still earn incentives over 3 years for meeting education, health, and employment goals. Final impact findings are not currently available, but interim findings suggest that effects on employment and GED obtainment are modest. For example, in the second year of the program, only 43% of families earned at least one incentive for full-time employment, and almost no adults earned an incentive for obtaining a GED certificate (< 1%; Dechausay, Miller, & Quiroz-Becerra, 2014). The reason for the lack of effects is unclear. However, for adults with limited education and work histories, incentivizing large, delayed behavioral outcomes without supporting and ensuring the acquisition of behaviors needed to obtain those outcomes, may not be an effective approach.

Performance-Based Scholarships to Promote Educational Achievement

Around the same time that conditional cash transfer programs were being evaluated, three randomized studies were conducted to evaluate programs that supplemented the financial support available to low-income adults who were enrolled in community college. These included performance-based scholarship programs in Louisiana, Ohio, and New York. All of the programs offered a supplement to existing federal and state financial aid that was contingent on enrolling in a minimum number of credit hours and making passing grades. While these programs focused on educational achievement, the long-term goal was to increase employment and earnings potential by promoting degree attainment. The following section and Table 2 provide a summary of the program evaluations.

Opening Doors—The first performance-based scholarship program was tested in a randomized study in Louisiana (Richburg-Hayes et al., 2009). In that study, 1,019 low-income parents who were enrolled in one of two community colleges were randomly assigned to a control group or to a program group who could receive the “Opening Doors” performance-based scholarship for two semesters. Under the performance-based scholarship, participants could earn \$250 at the start of a semester for enrolling part-time or more (six credit hours), \$250 after midterms for maintaining at least part-time enrollment and earning a “C” average or higher, and \$500 at the end of the semester for completing the courses with a “C” average or higher. In total, participants could earn \$2,000 over the course of the entire program if they maintained at least part-time enrollment (six credit hours) and a “C” average or higher. Program counselors monitored participants’ performance and paid participants any earnings at the beginning, middle, and end of the semester (Richburg-Hayes et al., 2009). Program group participants enrolled in slightly but significantly more credit hours than the control group participants in the first (8.6 vs. 8.0) and second (6.2 vs. 5.0) semesters and were significantly more likely to have earned a “C” average or higher in the first (55% vs. 44%) and second (38% vs. 27%) semesters. Just after the program ended, Hurricane Katrina struck the Gulf Coast region, resulting in the temporary closure of the two colleges. The study did not determine whether the program had long-term effects on graduation or employment outcomes (Richburg-Hayes et al., 2009).

Performance-Based Scholarships in Ohio and New York—The performance-based scholarship model was later tested in two randomized studies in Ohio and New York. In the Ohio study, 2,285 low-income parents who were enrolled in one of three community colleges were randomly assigned to a control group or to a program group that could receive the performance-based scholarship. For participants in the program group, the performance-based scholarship was available for two consecutive semesters or three consecutive quarters (depending on the college’s system). Both full-time and part-time scholarships were created to encourage full-time enrollment, while also supporting students who could attend only part time. Students could earn a maximum of \$1,800 over the course of the entire program for achieving a “C” or higher in 12 or more credits (Mayer, Patel, & Gutierrez, 2015). While the scholarship was in effect, program group participants earned slightly but significantly more credits (15.9 vs. 14.2) than control group participants (the percentage of participants who earned a “C” average or higher were not reported). At a 12-month follow-up, participants in the program group were slightly but significantly more likely to have received a degree than control group participants (21% vs. 17%), but were not more likely to be employed (66% vs. 65%) or to have higher annual earnings (\$7,776 vs. \$7,751; Mayer et al., 2015).

The program that operated in New York targeted low-income adults who were required to take at least one remedial education course (Patel & Rudd, 2012). Remedial education courses are offered at colleges and are sometimes required to obtain a degree, but are below college-level. Students pay tuition for remedial courses, but they do not receive college credit for completing the course. The program was evaluated at two community colleges, at which 1,502 participants were randomly assigned to a control group or to one of two performance-based scholarship groups. Participants in the performance-based scholarship groups could earn a \$1,300 scholarship for two consecutive semesters (totaling up to \$2,600;

Performance-Based Scholarship group) or \$1,300 for each of those semesters and one summer term (totaling up to \$3,900; Performance-Based Scholarship Plus Summer group), if they maintained at least part-time enrollment (six credit hours) and earned at least a “C” average. In the first semester, program group participants (Performance-Based Scholarship group and Performance-Based Scholarship Plus Summer group) enrolled in slightly but significantly more credit hours (12.6 vs. 12.2) and earned slightly but significantly more credit hours (8.9 vs. 8.4) than control group participants. However, they were not more likely to have earned a “C” average or higher (70% vs. 66%) and the significant effects for credit hours did not persist past the first semester. Participants in the Performance-Based Scholarship Plus Summer group enrolled in slightly but significantly more credit hours during the summer than the Performance-Based Scholarship and control participants (1.5, 1.1, and 1.1, respectively), but the groups did not differ in the average number of credits earned (Patel & Rudd, 2012). In the year after the scholarship ended, participants in the program groups were not more likely to have received a degree than control group participants (9% vs. 11%). Findings related to employment and earnings were not reported (Mayer et al., 2015).

The performance-based scholarship programs showed promise in promoting progress towards obtaining a degree, although the effects were small. The small effects may have been due to the fact that the incentives were delivered infrequently and were dependent on students engaging in a series of smaller behaviors to meet the grade criteria. While limited, the available data suggest that the performance-based scholarships did not have long-term effects on employment or earnings.

A Behavior-Analytic Antipoverty Program

The incentive-based, antipoverty programs have had small or no effects on the target behaviors and they have not consistently promoted employment or increased earnings. The programs were implemented on large scales from the outset, without systematic development and evaluation of their components. We cannot know which aspects of those programs are responsible for their limited effectiveness, but our knowledge of operant-conditioning principles suggests that those programs did have the following features that may have limited their effectiveness: 1) In all of the programs, there was a considerable delay between meeting a program requirement and receiving an incentive payment. The delay was generally due to the time it took to verify completion of the activity and to process the payment. 2) The incentives were delivered infrequently; the most frequent schedule of incentives was set at once per month. 3) The programs often required substantial responding (i.e., large response requirements) to earn an incentive. For example, participants in the performance-based scholarship programs had to achieve a “C” average or higher over a semester to earn an incentive. 4) The incentive magnitudes may have been too small to promote or maintain behavior, particularly given the large response requirements. 5) The programs did not ensure that participants had the prerequisite skills necessary to earn the incentives. For example, qualitative research conducted as a part of the Opportunity NYC–Family Rewards demonstration reported that some participants expressed that they did not know how to secure a full-time job. 6) The incentive system was not always clearly

described to participants. As a result, many participants did not understand the criteria for obtaining an incentive.

Although the incentive-based, antipoverty programs did not consistently promote employment or increase earnings, their mere existence is promising. Governments and other organizations have implemented these programs and sought to incorporate them into welfare systems, indicating the acceptability and feasibility of this type of intervention. Governments already provide the necessary financial support and infrastructure; what is needed is cumulative research—based on a strong empirical foundation—to systematically develop an effective antipoverty program. Governments and others could use those antipoverty programs to address the persistent and serious problem of poverty. Behavior analysts are uniquely suited to develop such programs.

Over the past 20 years, Silverman and colleagues have been developing an intervention called the “therapeutic workplace” that could provide a model for a behavior-analytic, antipoverty program (Silverman, Holtyn, & Jarvis, 2016). The therapeutic workplace intervention attempts to apply what we know about operant reinforcement contingencies to promote target behaviors of interest. Unlike the antipoverty programs reviewed in this paper, therapeutic workplace participants can earn financial incentives continually throughout the day and receive continual reports about their earnings, which are deposited into their personal accounts at the end of every day that they attend the therapeutic workplace. Prerequisite behaviors are established initially before more complex behaviors are required. Reinforcement is made contingent on small, discrete behaviors, and the requirements for reinforcement are typically increased gradually. The elements of the therapeutic workplace intervention as well as the intervention as a whole have been evaluated through systematic and rigorous research, typically in relatively small groups of participants.

The therapeutic workplace consists of two phases. In the initial phase (Phase 1), adults are hired and paid for working in a model workplace. The therapeutic workplace was originally designed to treat poor, unemployed adults with histories of drug addiction (Silverman, 2004). To promote drug abstinence, participants are required to provide evidence of drug abstinence (e.g., drug-negative urine samples) to access the workplace and maintain maximum pay. However, it should be noted that other health-related behaviors besides drug abstinence could be targeted during this phase. To address poverty, Phase 1 of the therapeutic workplace seeks to develop academic and job skills that employers may value, and establish professional behaviors such as punctuality and regular attendance at work. That is, Phase 1 of the therapeutic workplace aims to develop skills that may help participants obtain employment and escape poverty.

Participants who graduate from Phase 1 of the program can progress to Phase 2, in which the goal is to promote and support stable employment in the community. As such, three models have been developed to promote employment after participation in Phase 1 ends (Silverman, Holtyn, & Morrison, 2016). Under the Social Business Model, graduates of Phase 1 are hired as employees in a social business. Social businesses are organizations that seek to address socially-relevant problems by using business methods, such as the manufacturing and sale of products and services (Yunus, 2011). The therapeutic workplace social business,

called Hopkins Data Services, hired participants to perform data-entry jobs for paying customers (Aklin et al., 2014; Silverman et al., 2005). Under the Cooperative Employer Model, collaborating employers in the community agree to interview and consider Phase 1 graduates for available jobs in their company. This model could hold great promise as it would readily provide employment opportunities. Under the Wage Supplement Model, graduates of Phase 1 are offered wage supplements if they obtain and maintain employment. To support participants in finding employment, an evidence-based supported employment program called Individual Placement and Support (IPS) is provided in Phase 2 (Bond, Drake, & Becker, 2012). We are currently evaluating whether the Wage Supplement Model is effective in promoting stable employment in low-income adults and in turn, moving these adults out of poverty. If one or more of these strategies prove to be effective at reducing poverty consistently, future research could determine if these programs improve health in addition to improving poverty.

The therapeutic workplace could serve as a behavior-analytic antipoverty program, but systematic research is required to determine whether the intervention can effectively move poor individuals out of poverty. The program is based on the assumption that stable employment is the foremost path out of poverty because employment is the main driver of income. To promote employment, the therapeutic workplace seeks to address three major targets: 1) it seeks to promote academic and job skills that could be key drivers of income as they can enhance job opportunities, improve earnings, and decrease the likelihood of job termination; 2) it seeks to promote job-seeking behaviors needed to obtain employment; and 3) for individuals that have undesirable health behaviors that could limit employment opportunities (e.g., illicit drug use), the therapeutic workplace seeks to promote and maintain desirable health behaviors.

A number of therapeutic workplace studies have been conducted to establish methods that reliably promote health behaviors, academic achievement, and job skills in adults who live in poverty. Since drug addiction has been a primary focus of the therapeutic workplace research to date, we have conducted randomized controlled trials in which we have shown that contingent access to the therapeutic workplace can promote and maintain drug abstinence and adherence to addiction medications (for a review, see Silverman, DeFulio, & Sigurdsson, 2012). We have conducted a series of studies using within-subjects reversal designs, which have shown that the therapeutic workplace reinforcement contingencies can improve attendance, punctuality, and full work-shift completion (Silverman, Chutuape, Bigelow, & Stitzer, 1996; Wong, Dillon, Sylvest, & Silverman, 2004a,b). We also have used both randomized and within-subjects designs to promote engagement and skill acquisition in the training provided in the therapeutic workplace (Koffarnus, DeFulio, Sigurdsson, & Silverman, 2013; Koffarnus et al., 2013; Wong et al., 2003). Taken together, these studies demonstrate the effectiveness of the application of reinforcement in the form of financial incentives to promote drug abstinence, medication adherence, academic achievement, job skills, and other behaviors that may increase employability. Ongoing research is evaluating whether similar contingencies can be arranged to promote job seeking and employment in the community, while simultaneously maintaining long-term drug abstinence. Controlled studies will need to be conducted to determine whether the establishment of such behaviors is essential or even helpful to promoting employment. While it remains to be empirically

demonstrated, we suspect that this strategic application of reinforcement via the therapeutic workplace could promote stable employment and reduce poverty among the poor.

Conclusion

The therapeutic workplace could provide a model for a behavior-analytic antipoverty program, but it is by no means the only possible approach. The systematic application of behavioral principles has been demonstrated to improve a diverse range of behaviors (e.g., social, leisure, educational, substance use) across a wide range of populations (e.g., individuals with autism, intellectual disabilities, substance use disorders) and settings (e.g., schools, homes, roadways, businesses, hospitals; Beavers, Iwata, & Lerman, 2013; Culig, Dickinson, McGee, & Austin, 2005; Silverman, 2004; Steege, Mace, Perry, & Longenecker, 2007; Trahan, Kahng, Fisher, & Hausman, 2011). Similar efforts aimed at systematically developing and applying behavioral interventions to reduce poverty could be highly effective. In so doing, behavior analysts could be uniquely suited to make substantial contributions to the war on poverty.

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Description of incentive-based, antipoverty programs that used wage supplements or conditional cash transfers to promote education and employment among welfare recipients and other low-income adults.

Table 1

Program	Location	Sample Size	Population	Duration	Incentive System
Jobs First	CT	4,803	Single-parent families applying for or receiving welfare	4 years (1996–2000)	Participants who obtained employment could receive: 1) a time-limited (21 months) earned income disregard, which removed all earned income from cash welfare calculations; 2) six-month extensions could be granted to those who made efforts to find jobs but were unsuccessful
Minnesota Family Investment Program	MN	14,639	Single- or two-parent families applying for or receiving welfare	4 years (1994–1998)	Participants who obtained employment could receive: 1) a 20% increase in welfare assistance; 2) earned income disregard, in which 38% of earnings were disregarded in calculating welfare assistance
New Hope	WI	1,362	Adult welfare recipients	4 years (1994–1998)	1) About \$120 to \$130 every month for working 30 hours per week; 2) time-limited (12 months) minimum-wage community-service jobs if participants could not find a job after 8 weeks, recently lost a job and could not find work after 3 weeks, or were working part-time
Employment Retention and Advancement	TX	5,331	Single-parent families applying for or receiving welfare	4 years (2000–2004)	Participants who obtained employment could receive: 1) a 4-month earned income disregard, in which 90% of earnings were disregarded in calculating welfare assistance; 2) \$200 every month for working 30 hours per week and participating in a monthly employment “advancement” activity OR \$200 every month for working 15 hours per week and attending education and training activities for 15 hours per week
Opportunity NYC - Family Rewards	NY	4,800	Low-income families	3 years (2007–2010)	1) \$300 every 2 months for working 30 hours per week for 6 out of 8 weeks; 2) \$300 to \$600 every 2 months for completing an approved education or job-skills training course (payment amount was based on the length of the course)
Opportunity NYC - Family Rewards 2.0	TN, NY	2,400	Low-income families	3 years (2011–2014)	1) \$150 every month for working 120 hours per month; 2) \$400 for obtaining a GED

Table 2

Description of incentive-based, antipoverty programs that used performance-based scholarships to supplement the financial support available to low-income adults who were enrolled in community college.

Program	Location	Sample Size	Population	Duration	Incentive System
Opening Doors	Two community colleges in Louisiana	1,019	Low-income parents	2 full semesters	1) \$250 for enrolling in 6 credit hours; 2) \$250 for maintaining enrollment in 6 credit hours and earning a "C" average or better at midterm; and 3) \$500 for completing the courses with a "C" average or better
Performance-Based Scholarship Ohio	Three community colleges in Ohio	2,285	Low-income parents	2 full semesters or 3 full quarters	Full time: 1) \$900 per semester or \$300 per quarter for completing 12 credit hours with a "C" average or better; or Part time: 2) \$450 per semester or \$300 per quarter for completing 6–11 credit hours with a "C" average or better
Performance-Based Scholarship New York	Two community colleges in New York	1,502	Low-income adults in need of remedial coursework	2 full semesters and 1 summer semester	Full Semesters: 1) \$200 for enrolling in 6 credit hours or equated credits ^a ; 2) \$450 for maintaining enrollment in 6 credit hours or equated credits at midterm; 3) \$650 for completing the courses with a "C" average or better (or a "Pass" in remedial courses); and Summer Semesters: 1) \$200 for enrolling in 3 credit hours or equated credits; Full time: 2) \$1100 for completing 6 credits or equated credits with a "C" average or better (or a "Pass" in remedial courses); or Part time: 3) \$450 for completing 3–5 credits or equated credits with a "C" average or better (or a "Pass" in remedial courses)

^aEquated credits are awarded in remedial education courses.