The Basic Skills of Welfare Recipients: Implications for Welfare Reform

Hans P. Johnson
Sonya M. Tafoya

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Foreword

This report is the fourth in a series of studies undertaken by PPIC to understand the consequences of the Personal Responsibility and Work Opportunity and Reconciliation Act of 1996. The authors, Hans P. Johnson and Sonya M. Tafoya, analyze the National Adult Literacy Survey to assess the basic skills of adults on welfare and the likelihood that welfare recipients will be able to find and hold full-time jobs, given their educational background and skill level. In spite of the remarkable reduction in welfare rolls since the reform legislation of 1996, and the sustained growth of the California economy, the findings do not augur well for the poor still on the rolls.

Welfare recipients in California are found to have substantially lower basic skills than other adults in the state and the nation, even when compared to other adults with the same level of education. Why, then, are the rolls shrinking and applications for assistance continuing to decline? The authors do not have a direct answer, but they do find that over 50 percent of the adults in California who have basic skills and

demographic characteristics similar to welfare recipients, but who are not receiving welfare, work at least part time. Most hold jobs intermittently, and the jobs are low-paying. These findings suggest that some welfare recipients could be similarly employed. The authors wave a flag of caution, however, and note that any softening of the economy for a sustained period could hit these workers—the ones with the lowest levels of basic skills—the hardest.

There is no major reform of public policy that has come under closer scrutiny than welfare reform. For those who cheer the strong economy and the declining caseload, there are others who see a grim tale of poorly educated and undernourished children whose parents will return to the rolls with the first downturn in the California job market. The authors suggest that improving the basic skills of welfare recipients, although difficult, merits public policy attention; some contact with the job market, however unsteady, is a realistic option for some, if not all, of those currently receiving assistance. Future publications by PPIC will explore this welfare/work relationship in further detail.

David W. Lyon
President and CEO
Public Policy Institute of California

Summary

Large reductions in welfare caseloads have led many to conclude that welfare reform initiated by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 has been a success. In California, for example, the number of families receiving welfare declined 22 percent from January 1997 to September 1998. Although impressive and certainly one indicator of success, this decline has occurred during a period of strong economic growth. The ability of welfare recipients to transition from welfare to work during a recession is less certain. Even the large decline in welfare caseloads during this current period of economic growth is not necessarily due to welfare recipients' success in finding work. Some of the decline is due to a drop in the number of applications for welfare. Additionally, some may have left the welfare rolls but not to work, relying instead on friends and family for financial support. Many questions remain about the ability of welfare recipients to find work and the quality of jobs that they do find.

This report addresses the prospects of the nation's and particularly California's welfare population as it faces a new welfare system of work requirements, sanctions, and time limits. The report describes the basic skills of welfare recipients and evaluates the employment implications of such skills. In this report, we seek to answer three questions:

- How do the basic skills of welfare recipients differ from those of other adults in general and workers in particular?

- How much of the gap in skills between workers and welfare recipients can be explained by educational attainment?

- What are the labor force status and characteristics of jobs held by persons with skills and characteristics similar to the skills and characteristics of welfare recipients?

To answer these questions, we use data from the National Adult Literacy Survey. This nationally representative survey, conducted in 1992, includes a test of basic skills. It assessed the ability of respondents to perform tasks commonly encountered in daily living (e.g., understanding the argument in a newspaper editorial) and tasks that could be encountered in the workplace (e.g., completing a job application). We use several methods to answer the questions posited above, from simple descriptive statistics to logistic regression.

These are our major findings:

- Welfare recipients have substantially lower basic skills than other adults. In California, for example, almost 80 percent of welfare recipients have either low or very low basic skills, compared to 34 percent of full-time workers in the state. With such poor basic skills, most welfare recipients have difficulty successfully completing tasks commonly encountered in daily living. For example, the average welfare recipient in California has difficulty

following simple written directions to perform a single mathematical operation (such as addition) using numbers easily located in the text.

- Differences in educational attainment between welfare recipients and other adults explain some of the skills gap but not the majority of the gap. About 40 percent of the difference in basic skills scores between welfare recipients and other adults can be attributed to lower educational attainment levels of welfare recipients. However, welfare recipients have substantially lower basic skills than other adults *with the same level of education*.

- We have some cause for optimism: In California, a substantial proportion (58 percent) of adults with basic skills and demographic characteristics similar to welfare recipients are working at least part time.

- We also have cause for concern: The jobs held by people whose basic skills are similar to those of welfare recipients are characterized by low wages, intermittent employment, and less than full-time hours. In California, only one-third of adults with basic skills similar to welfare recipients were employed full time year-round.

Although the ultimate success of welfare reform will be determined as recipients encounter time limits, the social and individual costs of failure require that we anticipate and respond to potential impediments to success before that time. Our findings suggest that although many welfare recipients can and will find work, a substantial proportion lack the skills for successful integration into the labor force. California faces a greater challenge than most other states: The basic skills of welfare recipients in California are lower than those of welfare recipients in the rest of the nation, and the skills gap between workers and welfare recipients is greater in California than in the rest of the nation.

The low skills of welfare recipients are not easily amenable to change. Many welfare recipients have graduated from high school, yet even after a dozen years of schooling they are unable to perform simple tasks commonly encountered in the workplace. The track record of training programs is not especially promising.   We are also skeptical that on-the-job training will provide these skills—especially considering the types of jobs that welfare recipients might hold.

The difficulty in improving the basic skills of welfare recipients does not mean that we should not try. It does mean that we need to be realistic about the costs of providing meaningful training and of improving basic skills. Training programs for improving basic skills need to be critically assessed, with their costs weighed against their benefits. The most promising programs seem to be those that focus on employment and that integrate real job situations into the vocational and basic skills training.

Ultimately, we might need to accept that a substantial portion of welfare recipients will continue to need some form of income support, either because their very low skills make them virtually unemployable or because the work they find is of such low quality (and quantity) that they are still living in poverty.

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Acronyms

ADC	Aid to Dependent Children
AFDC	Aid to Families with Dependent Children
AFDC-UP	Aid to Families with Dependent Children—Unemployed Parent
CalWORKs	California Work Opportunity and Responsibility to Kids
DHHS	Department of Health and Human Services
ETS	Educational Testing Service
FSA	Family Support Act
GAIN	Greater Avenues for Independence Program
GED	General Equivalency Diploma
JOBS	Job Opportunities and Basic Skills Training Program
NALS	National Adult Literacy Survey
NCES	National Center for Education Statistics
PRWORA	Personal Responsibility and Work Opportunity Reconciliation Act of 1996
SALS	State Adult Literacy Survey

SSI	Supplemental Security Income
TANF	Temporary Assistance to Needy Families
WIN	Work Incentive Program

1. Introduction

Since the inception of welfare programs in the United States, one primary goal of policymakers has been to reduce the number of welfare recipients. Particularly over the past few decades, numerous programs have been devised to improve the employment prospects of welfare recipients and lead them forward to self-sufficiency. These welfare-to-work programs have focused variously on job searches, unpaid work experience, monetary incentives (e.g., earnings disregards),[1] classroom training, and remedial education. The latest and most dramatic incarnation of welfare reform, operating partly under the assumption that welfare recipients lack the proper motivation to work, requires welfare recipients to work after a certain amount of time on aid and limits the total amount of time an individual can receive assistance. The success of welfare reform largely depends on moving people from welfare

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[1]Earnings disregards provide monetary work incentives for welfare recipients. Rather than reducing welfare benefits by the full amount of earnings, under earnings disregard programs, some welfare recipients who work are able to continue to receive full or only partially reduced benefits.

to work. However, it also depends on the duration and wages of that work. Income support programs might still be necessary if one goal of welfare reform is to lift welfare recipients out of poverty.

Ascertaining the ability of welfare recipients to find work and determining the quality of the jobs they find are essential to assessing the effectiveness of welfare reform. However, projecting such labor force outcomes is difficult. It is well known that welfare recipients are less educated and less skilled than other adults in the labor force (see, for example, Burtless, 1995; Barton and Jenkins, 1995; MaCurdy and O'Brien-Strain, 1997; Pavetti, 1997; and Reder and Wikelund, 1994). However, it is not clear to what extent these low levels of skills are an impediment to employment. In this report, we use data on basic skills from a national survey of adults to determine the basic skills gap between welfare recipients and other adults and to estimate the employment implications for welfare recipients. We conduct our analyses for both California and the United States.

California is an important state to single out for the study of basic skills as they relate to welfare recipients. As of September 1997, California was home to 23 percent of the nation's welfare (Temporary Assistance to Needy Families—TANF) recipients (U.S. DHHS, 1998). This group, totaling 2,225,893 people, consisted of 663,396 adults and 1,559,497 children. Eighteen percent of families in this group were two-parent families. California spent $4.8 billion on its welfare program in fiscal year 1996–97 (California Department of Social Services, 1998). If the nation is to successfully reform welfare, California, with its large and diverse population, must be considered as a crucial factor in the equation.

Historical Welfare Context

Aid to Dependent Children (ADC)[2] was created in 1935 to ensure income security for mothers who had lost the income of a spouse as a result of death or disability (O'Neill and O'Neill, 1997). Work requirements and work skills, topics now central to welfare policy debates, were not among initial policy concerns, as mothers were not expected to work. However, in the 1960s, when women from every social class began to enter the labor force in large numbers, support for policies that allowed parents to receive public assistance rather than working to support their children began to decline (Jansson, 1997). In 1962, the first federally sponsored work requirement was instituted (Brock, Butler, and Long, 1993). Though small, it was followed by larger federal programs that stressed training and work requirements, thereby introducing the basic skills of welfare recipients as a factor in formulating welfare policy.

In 1967, Congress created the Work Incentive Program (WIN), which introduced mandatory training programs for some welfare recipients.[3] The program was intended to "reorient welfare toward work" (Gueron and Pauly, 1991). Supervised job searches and unpaid work experience were the main activities of the programs, and earnings disregards were instituted to encourage recipients to work their way off welfare. In practice, however, low enrollment and lack of adequate funding meant that the hope of "reorienting welfare to work" went unfulfilled (O'Neill and O'Neill, 1997; Friedlander, Greenberg, and

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[2]ADC was the precursor to Aid to Families with Dependent Children (AFDC).

[3]Those recipients were heads of single-parent AFDC families without preschool-aged children, and heads of two-parent AFDC-UP (-unemployed parent) families (Friedlander, Greenberg, and Robins, 1997).

Robins, 1997). AFDC caseloads did not decline and welfare rolls swelled in the early 1970s (O'Neill and O'Neill, 1997; Majority Staff of the Committee on Ways and Means, 1996).

In an effort to encourage innovative and cost-effective programs, the Omnibus Budget Reconciliation Act (1981) granted states the flexibility to design their own WIN demonstration projects (O'Neill and O'Neill, 1997; Friedlander, Greenberg, and Robins, 1997; also, see Gueron and Pauly, 1991, for a review of these projects). Based on the most promising of these demonstration projects, the Family Support Act (FSA) was passed in 1988 and the Job Opportunities and Basic Skills Training Program (JOBS) was established to replace WIN in providing federal funds for welfare-to-work program services (Gueron and Pauly, 1991). The FSA stressed the primary responsibility of parents to financially support their children, without changing the entitlement nature of AFDC. JOBS broadened the population of recipients mandated to participate in training and work, increased sanctions for nonparticipation, and committed federal funds to remedial and basic education in welfare-to-work programs (Friedlander, Greenberg, and Robins, 1997; Brock, Butler, and Long, 1993).

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) replaced both the AFDC and JOBS programs with TANF, effectively ending the entitlement nature of AFDC. PRWORA was based on the notion that welfare benefits have had the perverse effect of encouraging a cycle of dependency. The reform emphasizes time limits and work requirements (rather than education and job training), imposing a lifetime limit of 60 months of benefits and a work requirement after a maximum of two years of assistance. States that are unable to move welfare recipients to work face penalties.

California Welfare Context

Under TANF, each state is given a block grant and some flexibility to design its own welfare program. California's program is entitled California Work Opportunity and Responsibility to Kids (CalWORKs). New applicants to CalWORKs may receive aid for 18 continuous months, although counties may extend aid for an additional six months.[4] As required by federal law, there is a five-year cumulative lifetime limit on aid, although children of adults who reach the lifetime limit will continue to receive aid (California Department of Social Services, 1997). Most welfare applicants are required to first engage in a job search.[5] If the job search is unsuccessful, a county employee will conduct an assessment interview with the applicant, during which the applicant and the county will enter an agreement written up as a welfare-to-work plan. Applicants will then participate in welfare-to-work activities for the period specified in the plan. If the time period expires and the applicant has not found unsubsidized work, the county may extend the plan by six months. For new adult applicants, Adult Basic Education, vocational education, and education directly related to employment will qualify as work activities but only in cases where the education is needed to become employed (California Welfare and Institutions Code). Thus, CalWORKs supports the development of basic skills only to the extent that it is necessary to qualify an applicant to enter the workforce.

The structure of CalWORKs' welfare-to-work component has its roots in California's Greater Avenues for Independence Program (GAIN), which was instituted in 1985, and began operating under the

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[4]Current recipients may receive aid for 24 consecutive months.

[5]See the California Welfare and Institutions Code for a list of individuals exempt from this sequence of activities.

federal JOBS program in 1989. GAIN has been evaluated closely in six California counties—Alameda, Butte, Los Angeles, Riverside, San Diego, and Tulare. The successes of GAIN, particularly in Riverside County, were cited as examples for the state to follow in establishing welfare-to-work programs under PRWORA (Legislative Analyst's Office, 1997).

Initially, the GAIN program differed from previous programs in that it made basic education mandatory for the subset of welfare recipients deemed "in need of basic education."[6] This group of registrants could either attend basic education classes or elect a job search activity. If they chose a job search and failed to obtain employment, they were required to attend basic education classes. The six counties evaluated varied in their emphasis on basic skills' development versus quick employment (Riccio, Friedlander, and Freedman, 1994).

The Riverside program, with its emphasis on "quick employment," is one of the most successful welfare-to-work programs to date. The Riverside program increased the five-year average of those ever employed by 16 percent, increased average total earnings over five years by 42 percent, and reduced five-year average total AFDC payments by 15 percent (Freedman et al., 1996). The Riverside GAIN "quick employment" strategy has been adopted by CalWORKs.

Yet the GAIN results also raise concerns about time limits set by PRWORA, especially for recipients with relatively low basic skills and numerous obstacles to employment. Although federal law allows a state to exempt up to 20 percent of its caseload from the five-year time limit,

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[6]AB 1371 in 1996 repealed the mandate for basic education and required job search activities as the first activity, except for individuals who lack the education to succeed in even the most unskilled employment (California Assembly Bill 1371 at www.leginfo.ca. gov).

results from the GAIN program indicate that a larger exemption may be necessary. For example, by the last quarter of the fifth year, nearly one-third of those in the experimental group in Riverside were collecting AFDC payments—about the same number as in the control group. Similarly, in Los Angeles County,[7] approximately half of *both* the control and experimental groups were collecting AFDC payments in the last quarter of the fifth year (Freedman et al., 1996). This is a discouraging finding, given that about one-third of the state welfare caseload is located in Los Angeles County (Riccio, Friedlander, and Freedman, 1994).

When all six counties in the GAIN evaluation were taken into account, and the experimental group was compared with the control group, the five-year average of those ever employed increased by only 7 percent. The average total earnings over five years increased by 23 percent, and the five-year average total AFDC payments fell by 7 percent. The proportion of the experimental group collecting welfare at the end of the fifth year was 39 percent (Riccio, Friedlander, and Freedman, 1994). These results demonstrate that the success of GAIN in California was not universal.

Strawn (1998) asserts that low earnings and lack of steady employment account for high levels of AFDC receipt in the fifth year of GAIN. She suggests that these outcomes are the result of quick employment programs, which increase average earnings mostly by helping recipients to work more, rather than helping them to find better jobs. Prior evaluations of GAIN and like programs have yielded similar conclusions, adding that even though these programs have shown

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[7]In Los Angeles County, GAIN focused exclusively on long-term welfare recipients.

success, they have not lifted large numbers of their participants above poverty (U.S. Department of Labor, 1995).

It is well known that the earnings capacity of both men and women at risk of need for public assistance has been declining since the 1970s and that the decline has been especially steep since the late 1980s (Brady and Wiseman, 1997). The earlier results of the GAIN program, combined with the realities of the low-skill labor market, highlight the importance of earnings disregards and the Earned Income Tax Credit in alleviating poverty. They also highlight the importance of job skills in successfully making the transition from welfare to work.

Scope of This Research

Although a primary tenet of the TANF legislation is that able-bodied welfare recipients should work, we do not know much about the labor force skills of welfare recipients. Educational attainment levels of welfare recipients are well known but might not be an adequate measure of a welfare recipient's employability. In particular, educational attainment levels probably overstate the skills of welfare recipients. For example, high school graduates who are welfare recipients can be expected to be less skilled than high school graduates who are in the labor force. Some past research has compared the skills of welfare recipients to those in the rest of the population (see O'Neill and O'Neill, 1997, for a summary). However, such research has been limited because of relatively small sample sizes, and the skills test, the Armed Forces Qualifying Test, was administered years before entry into the labor force or receipt of welfare. To assess the employment prospects of welfare recipients, a measure of basic skills is necessary, preferably one that is contemporaneous with

labor force experience and that also captures the types of skills employers might value.

In 1992, the National Center for Education Statistics (NCES) and the Educational Testing Service (ETS) conducted the National Adult Literacy Survey (NALS), administering the survey to a nationally representative group of adults, including welfare recipients. It was the first national scale survey to measure the basic skills of working-age persons contemporaneously with their labor force experience. Twelve states, including California, sponsored increased sample sizes for their states to obtain reliable information at the state level. The goal of NCES and ETS was to assess people's ability to succeed in dealing with practical analytical problems involving reading, writing, and calculating— problems that they could be expected to encounter in their work, home, and civic lives. For example, the exam included such tasks as completing a job application, calculating the total cost of a purchase from an order form, totaling a bank deposit entry, using a bus schedule, and writing a brief letter explaining an error on a credit card bill (see Appendix A for examples of tasks and levels of difficulty). Because the NALS included a questionnaire rich in demographic and socioeconomic information, we have a source of information that is well suited to the study of the basic skills of the employed, the working poor, and welfare recipients.

In this report, we address the prospects of the nation's, and particularly California's, welfare population as it faces a new welfare system of work requirements, sanctions, and time limits. Using the NALS database, we examine the characteristics of several groups of respondents, including welfare recipients, heavily dependent welfare recipients, workers not receiving public aid, and other adults. We analyze how the basic skills of welfare recipients differ from those of

other adults in general and from workers in particular. Although it is known that welfare recipients are, in general, less educated than workers, we determine how much of the gap in skills between workers and welfare recipients can be explained by educational attainment. Additionally, we identify the types of jobs held by persons with skills and characteristics similar to the skills and characteristics of welfare recipients. Finally, we discuss some of the policy implications of this research.

2. Data and Methodology

The National Adult Literacy Survey

The NALS was conducted in 1992 and included both a national household sample and supplemental household samples for 12 states, including California. The NALS gathered descriptive information and examined proficiency in basic skills for 26,091 respondents aged 16 and older.[1] In California, the total sample size was 2,665.

All respondents completed a background questionnaire, which provides demographic, linguistic, educational, and socioeconomic information including data on income, work, and public aid. This information was used to characterize the adult population of the United States, to understand factors related to the distribution of basic skills

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[1]The total number includes the additional samples of approximately 1,000 people per state for each of 12 states that chose to fund additional sampling in their respective states (state samples are referred to as State Adult Literacy Surveys or SALS). These supplemental state samples allow for state-level analyses. See Appendix B for a more complete discussion of the samples and the data.

scores, and to compare the NALS results with previous studies. It was also used to summarize the data by various demographic groups and to increase the accuracy of the basic skills estimates for various subpopulations (see Appendix B).

Respondents spent approximately 20 minutes completing the background questionnaire and 45 minutes completing a booklet of tasks measuring their prose, document, and quantitative skills. These groups of tasks were scored separately, so that each individual received scores along a prose scale, a document scale, and a quantitative scale. The tasks were designed to measure an individual's ability to succeed in common, practical, analytical problems. Examples of the tasks are presented in Appendix A.

In previous literacy surveys, adult skills were measured by grade-level criteria, such as understanding a sixth-grade vocabulary list, or correctly completing an eighth-grade mathematical exercise. Because such tasks do not reflect the kinds of tasks that adults must routinely perform, they are neither appropriate nor adequate for assessing adult basic skills in the context of assessing employment prospects (Kirsch et al., 1993). Thus, our analysis and discussion of basic skills in this report are based on the scores derived from the NALS.[2] Our analyses indicate that basic skills scores are a good predictor of labor force outcomes (see Appendix C). Indeed, basic skills scores are at least as good a predictor of labor force

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[2]NCES and ETS use the term literacy rather than basic skills. Our experience has been that many people understand literacy as a dichotomous skill (the ability to read and write). NCES and ETS, however, consider literacy to be much less discrete, noting that the NALS shows a wide range of literacy proficiencies. We chose the term basic skills rather than literacy because it is more readily understood as consisting of a range of abilities, and to make explicit that, more than simply testing for the ability to read and write, the exam contained practical reading, writing, calculating, analyzing, and reasoning tasks that adults face in their everyday lives.

outcomes as education. This suggests that the NALS exam measures skills that employers value.

One potential problem of the survey is its age; although we would not expect a substantial change in the literacy proficiencies of adults since 1992, we might expect changes in the population receiving welfare. In 1992, the nation, especially California, was experiencing a recession. Welfare caseloads were substantially higher in 1992 than they are today. It is reasonable to expect that those most likely to leave welfare in the intervening years were those most skilled. Thus, we would expect our findings to understate the current difference in skills between welfare recipients and other adults. On the other hand, the labor force characteristics of persons not on welfare might have been depressed, in terms of both wages and employment rates during the recession. Because we analyze the employment prospects of welfare recipients by looking at the labor force status and characteristics of jobs of certain adults not on welfare, the survey's timing might lead to an overstatement of the problems welfare recipients might face. The net effect is uncertain.

Study Methods

We use several methods to accomplish the various goals of our analyses. In almost all of our analyses, we use the quantitative literacy score as our measure of basic skills and restrict the sample to adults between the ages of 16 and 55 who are not enrolled in high school. We identify welfare recipients as persons who report living in a household that received AFDC, public assistance, or public welfare in the past 12 months.[3] Because one of our primary goals is to evaluate the ability of

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[3]The survey asked separate questions for Supplemental Security Income (SSI) and for Food Stamps.

welfare recipients to move off aid and into employment, we chose not to consider persons over the age of 55. Welfare recipients beyond 55 years of age will soon be, if they are not already, eligible for other forms of public assistance. We chose to exclude students still in high school, because those students are not in the labor force, generally not on welfare, and their basic skills are subject to substantial change as they complete more schooling. We might have chosen to exclude college students for the same reasons; however, we did not want to exclude a group of such substantial size and in the same age groups as many welfare recipients. Generally, we focus on quantitative basic skills because they are slightly better predictors of labor force outcomes than either document or prose skills (see Appendix C). In any event, the three types of basic skills are highly correlated and our results did not change in any substantial way when we considered one of the other types of skills.

In this report, we first present general findings of the NALS. In describing and comparing the basic skills scores of adults and certain subgroups, we provide simple statistics such as means and distributions. These statistics are weighted to reflect state and national adult populations. Population means are calculated as the weighted mean of individual scores, and standard errors were adjusted to take into account the sampling design and the NALS scoring procedure (see Appendix B).

We then develop one set of regression models to evaluate the difference in basic skills between welfare recipients and other adults. Our goal in these regression models is to determine if differences in basic skills can be ascribed to population composition differences between welfare recipients and other adults. Thus, the models we consider attempt to predict an individual's basic skills score using a prescribed and limited set of variables that identify certain demographic and social characteristics.

We conduct separate regressions by welfare status and educational attainment level. The substantive results of this set of regressions are discussed in Chapter 3; Appendix D contains the regression results themselves.

Finally, we develop a logistic regression model to predict the receipt of welfare. Our goal in this model is to identify persons similar to welfare recipients in terms of basic skills (and other characteristics) but who did not receive welfare. We seek to characterize the employment status and types of jobs of persons who are similar to welfare recipients in terms of education, basic skills, and some demographic characteristics. The model is described in Appendix E and the findings from the model are discussed in Chapter 3.

3. Findings

General Findings

The results of the NALS suggest that a substantial number of Americans lack fundamental basic skills.[1] As shown in Table 3.1, almost one in four American adults has very low basic skills. People at this lowest level can be expected to fail at tasks that are often encountered in an increasingly technical workplace that demands mental rather than physical skills. For example, people in the lowest basic skills level are generally unable to follow simple directions for performing a single mathematical operation using numbers that are easily located in a text (see Appendix A for examples of tasks in the survey). About half of Americans have either very low basic skills or low basic skills.

The large number of Americans with low basic skills is disturbing. In their review of the results of the NALS, the authors of the study state:

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[1]Detailed tables of descriptive statistics for the general adult population are available in Kirsch et al. (1993).

If large percentages of adults had to do little more than be able to sign their name on a form or locate a single fact in a newspaper or table, then the levels of literacy seen in this survey might not warrant concern. We live in a nation, however, where both the volume and variety of written information are growing and where increasing numbers of citizens are expected to be able to read, understand, and use these materials (Kirsch et al., 1993).

Table 3.1

Average Basic Skills of U.S. Adults

	Quantitative Skills	Document Skills	Prose Skills
Average score	271 (0.7)	267 (0.7)	272 (0.6)
Distribution of skills			
Very low skills	22	23	21
Low skills	25	28	27
Moderate skills	31	31	32
High skills	17	15	17
Very high skills	4	3	3

SOURCE: NALS; full sample.

NOTE: Very low skills correspond to scores less than 225, low skills correspond to scores between 226 and 275, moderate skills correspond to scores between 276 and 325, high skills correspond to scores between 326 and 375, and very high skills correspond to scores above 375. Standard errors in parentheses.

The average basic skills scores for Californians are slightly lower than for adults in the rest of the country. Indeed, of the 12 states that participated with NCES to increase sample sizes, California ranked ninth in terms of literacy scores (see Table 3.2). Also, the distribution of basic skills is more extreme in California than in the rest of the nation. As shown in Table 3.3, the proportions of Californians at the very lowest skill level *and* at the very highest skill level are slightly higher than in the nation as a whole. None of the other states with expanded samples, with the possible exception of Illinois, show a similar pattern. For example, although Iowa and Washington have relatively high proportions of adults

Table 3.2

Average Basic Skills Scores, by State and for the Nation
(Ranked by Quantitative Mean)

State	Quantitative Mean	Document Mean	Prose Mean
United States	271 (0.7)	267 (0.7)	272 (0.6)
Washington	293 (4.1)	288 (3.4)	291 (4.3)
Iowa	287 (3.4)	280 (2.8)	285 (3.0)
Indiana	282 (2.3)	276 (1.7)	281 (1.5)
Ohio	280 (2.7)	276 (2.4)	280 (2.3)
Illinois	274 (1.8)	269 (1.6)	274 (1.5)
Pennsylvania	274 (2.5)	270 (1.9)	275 (1.5)
New Jersey	273 (2.3)	268 (1.9)	273 (1.6)
Florida	271 (4.1)	264 (4.2)	269 (3.2)
California	269 (1.7)	263 (1.8)	270 (1.7)
Louisiana	261 (4.3)	257 (3.0)	263 (3.7)
New York	258 (2.1)	257 (2.1)	262 (1.9)
Texas	258 (1.9)	255 (2.0)	259 (2.0)

SOURCE: NALS; full sample.

NOTE: Standard errors in parentheses.

at the highest skill levels, they have relatively low proportions at the lowest skill levels. The distributions in Louisiana, New York, and Texas, on the other hand, are skewed toward the low end of the scale. California's relatively bipolar distribution mirrors the greater income inequality in the state than in the rest of the nation, suggesting that at least part of the reason for the relatively high income inequality in the state is related to the large variation in basic skills of California residents.

The Skills Gap: Basic Skills of Welfare Recipients and Workers

Although the basic skills of the adult population in California and the nation are fairly low, the basic skills of welfare recipients are even

Table 3.3

Distribution of Basic Skills Scores, by State and for the Nation

| | Percentage of Adults with: | | | |
State	Very Low Skills	Low Skills	Moderate Skills	High or Very High Skills
United States	22	25	31	21
California	24	22	30	24
Florida	21	27	31	21
Illinois	22	23	31	23
Indiana	16	27	35	23
Iowa	15	22	36	27
Louisiana	26	28	29	16
New Jersey	24	25	31	20
New York	28	26	28	18
Ohio	17	27	33	23
Pennsylvania	21	25	33	21
Texas	28	25	29	18
Washington	10	22	40	29

SOURCE: NALS; full sample.

NOTE: Results are for quantitative skills. Similar results were found for document and prose skills.

lower. Not only do welfare recipients tend to be less skilled than the general adult population, they tend to be much less skilled than employed people not receiving aid. In addition, people heavily dependent on welfare, defined as welfare recipients who did not work in the prior year, tend to have even lower skill levels than other welfare recipients. As shown in Table 3.4, welfare recipients scored 55 points lower on average than employed persons on the test of quantitative skills, and persons heavily dependent on welfare scored 72 points lower on average than employed persons. These very low scores mean that the

Table 3.4

**Average Basic Skills, by Welfare Status:
United States**

	Average Quantitative Score
Received welfare	239 (2.0)
Heavily welfare dependent	222 (2.6)
Did not receive welfare	287 (0.7)
Employed full time	294 (0.8)

SOURCE: Authors' tabulations from the NALS; sample restricted to adults aged 16 to 55 not in high school. Persons are defined as heavily welfare dependent if they did not receive any wage income in the 12 months before the survey.

NOTE: Standard errors in parentheses.

average person heavily dependent on welfare has difficulty performing simple arithmetic operations, such as addition, and generally cannot perform tasks requiring a single mathematical operation that is not specified in the question (see Appendix A for sample questions and their difficulty level). Half of all welfare recipients in the nation were heavily dependent on welfare. Similar results were obtained for the other types of skills measured by the NALS.

Another way to compare the skills of welfare recipients to other persons is to examine the distribution of scores by welfare status. As shown in Table 3.5, 60 percent of welfare recipients and 81 percent of persons heavily dependent on welfare have either low basic skills or very low basic skills.

Welfare recipients in California tend to have substantially lower basic skills than welfare recipients in the rest of the nation (see Table 3.6), whereas people heavily dependent on welfare and employed people have

Table 3.5

Distribution of Basic Skills, by Welfare Status: United States

	Percentage with:				
	Very Low Skills	Low Skills	Moderate Skills	High Skills	Very High Skills
Adults 16–55, not in high school (not on welfare)	17.7	25.8	35.5	18.9	2.1
Persons employed full time (not on welfare)	10.6	20.0	38.2	26.4	4.8
All welfare recipients	26.2	33.3	30.7	9.7	0.1
Persons heavily dependent on welfare	49.3	31.9	16.1	2.6	0.0

SOURCE: Authors' tabulations from the NALS; sample restricted to adults aged 16 to 55 not in high school.

Table 3.6

Average Basic Skills, by Welfare Status: California Compared to the Rest of the Nation

	Average Quantitative Score	
	California	Rest of Nation
Received welfare	221 (6.2)	242 (2.1)
Heavily welfare dependent	221 (8.0)	222 (2.7)
Did not receive welfare	279 (2.6)	288 (0.7)
Employed full time	287 (3.1)	295 (0.8)

SOURCE: Authors' tabulations from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: Persons are defined as heavily welfare dependent if they did not receive any wage income in the 12 months before the survey. Standard errors in parentheses.

only slightly lower basic skills. Thus, the basic skills gap between welfare recipients and employed people is greater in California than in the rest of the nation. This finding is somewhat surprising. Because California provides more generous welfare payments than most states and has a

higher proportion of its population receiving welfare,[2] we would expect that the California welfare population would include a greater share of moderately skilled persons than the rest of the country. The selection effect into welfare should be less in California than in most other states. However, as shown in Table 3.7, the proportion of welfare recipients with very low skills is substantially higher in California than in the rest of the nation (41 percent compared to 24 percent). In California, almost four of every five welfare recipients have either low or very low basic skills.

Table 3.7

Distribution of Basic Skills, by Welfare Status: California and the Rest of the Nation

	Percentage with:				
	Very Low Skills	Low Skills	Moderate Skills	High Skills	Very High Skills
California					
Adults 16–55, not in high school (not on welfare)	22.7	20.4	32.8	21.6	2.6
Persons employed full time (not on welfare)	15.8	18.2	34.4	25.6	6.0
All welfare recipients	41.3	35.6	20.3	2.9	0.0
Persons heavily dependent on welfare	46.5	26.9	23.4	3.2	0.0
Rest of the Nation					
Adults 16–55, not in high school (not on welfare)	16.9	26.7	35.9	18.5	2.0
Persons employed full time (not on welfare)	9.9	20.3	38.8	26.4	4.6
All welfare recipients	24.1	33.0	32.1	10.7	0.1
Persons heavily dependent on welfare	49.8	32.8	14.8	2.5	0.0

SOURCE: Authors' tabulations from the NALS; sample restricted to adults aged 16 to 55 not in high school.

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[2]In the restricted NALS sample we used, 8.2 percent of adults in California reported receiving welfare compared to 7.7 percent in the rest of the nation.

The fact that the skills gap between welfare recipients and employed persons is greater in California coupled with the very low basic skills levels of most California welfare recipients suggests that California will have a more difficult task than most states in moving persons from welfare to full-time work. Indeed, although welfare rolls have declined in California since 1993, the drop has been much less precipitous than in most other states (see Figure 3.1). Only three states have experienced declines that were smaller than California's between January 1993 and September 1997. Although the relatively small decline in the welfare rolls in California is probably primarily a function of the state's economy (i.e., the availability of jobs), the state's more generous welfare benefits, and slower implementation of welfare reform than in some other states, the relatively weak decrease is probably also a reflection of the very low skills of welfare recipients in the state.

On the other hand, persons who are *heavily dependent* on welfare in California are not much less skilled than other welfare recipients in the state. This is in sharp contrast to the rest of the country, where persons heavily dependent on welfare have substantially lower basic skills than other welfare recipients. The small basic skills gap between persons heavily dependent on welfare and other welfare recipients in California is not due to relatively high skills of heavily dependent welfare users in California; rather, it is due to the very low average skill level of all welfare recipients in the state. In addition, California has a higher proportion of heavily dependent welfare users among its welfare population than does the nation (55 percent compared to 48 percent).
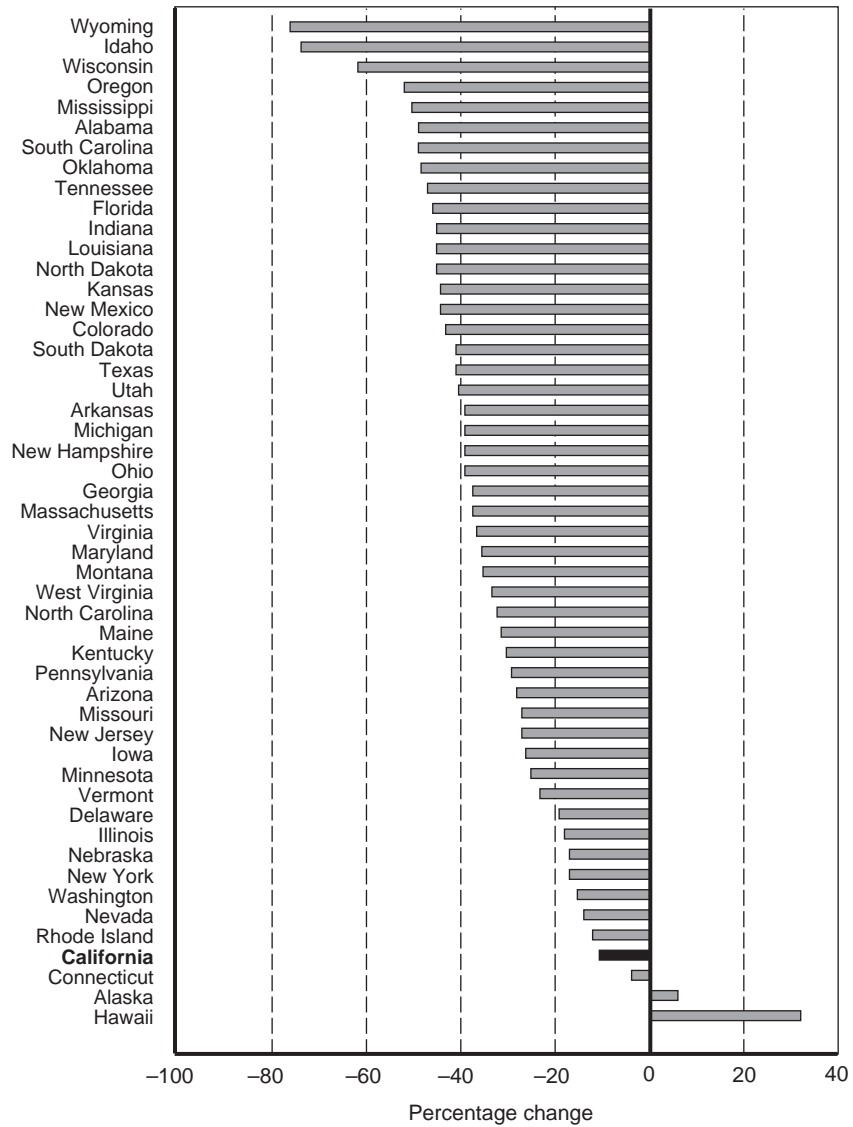
SOURCE: U.S. DHHS (1998).

Figure 3.1—Percentage Change in AFDC Families, by State, 1993–1997

Educational Attainment and the Basic Skills Gap

Because of a lack of data on the basic skills of welfare recipients, researchers and policymakers have used educational attainment as a proxy for skills. However, it is not clear to what extent educational attainment is an adequate indicator of a welfare recipient's basic skills. It seems reasonable to expect that welfare recipients have lower basic skills than similarly educated adults who are not on welfare, and the NALS provides us with the opportunity to evaluate the extent to which educational attainment overstates basic skills of welfare recipients compared to other adults.

In general, we want to determine whether the skills gap between welfare recipients and the rest of the population can be understood through differences in education and demographic characteristics. Do welfare recipients tend to have low literacy scores solely because they are poorly educated, are more likely to have a disability, and are younger than the general population? As noted previously, the NALS provides us with the unique opportunity to examine this question, since it is the only nationally representative sample of welfare recipients and workers that measures basic skills contemporaneously with labor force and welfare status.

In this section, we first examine the basic skills gap between welfare recipients and other adults within educational attainment levels. We then develop regression models to examine the relationship between proficiency in basic skills, education, and welfare, controlling for a host of sociodemographic factors such as gender, age, marital status, California residence, language spoken at home, and mental or physical disabilities.

Table 3.8 shows the skills gap by educational attainment level and the distribution of welfare recipients and other adults by educational attainment. As shown in the first two columns of the table, welfare recipients are less educated than other adults. Because people with lower levels of education tend to have lower basic skills, some of the skills gap can be explained by the lower levels of education of welfare recipients. However, as shown in the last three columns, welfare recipients *with the same levels of education* as other adults tend to have substantially lower basic skills.[3] For example, we find that welfare recipients with a high school diploma or GED have quantitative basic skills scores that are 24 points lower on average than those of other adults with a high school diploma or GED. A simple decomposition reveals that if welfare recipients had the same educational attainment distribution as other

Table 3.8

The Skills Gap and Educational Attainment Levels in the Nation

Educational Attainment Level	Percent by Educational Attainment		Mean Quantitative Score		Difference in Scores (the Skills Gap)
	Welfare Recipients	All Other Adults	Welfare Recipients	All Other Adults	
0–8 years	11	5	158 (7.0)	156 (3.4)	–2
9–12 years	29	11	209 (2.9)	227 (2.0)	18*
High school graduate or GED	45	39	251 (2.4)	275 (0.9)	24*
Some college	13	24	275 (3.5)	303 (0.9)	28*
College graduate	2	22	286 (11.6)	332 (0.9)	46*

SOURCE: Authors' tabulations from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: * indicates significance at the .01 level. Standard errors in parentheses.

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[3]The one exception is for adults with 0–8 years of education. For adults with this lowest level of educational attainment, average basic skills scores are extremely low (less than 160) for both welfare recipients and other adults.

adults, the basic skills gap would have been reduced by just over 40 percent. In other words, the basic skills gap is partially, but not primarily, explained by differences in education between welfare recipients and other adults. In particular, research that uses education as a proxy for the basic skills of welfare recipients substantially underestimates the skills gap between welfare recipients and other adults. A similar decomposition for California suggests that the basic skills gap between welfare recipients and other adults would be reduced by about 30 points (40 percent of the total difference) if California welfare recipients had the same levels of educational attainment as other adults in the state. Thus, the majority of the skills gap remains unexplained if one considers education alone.

Using a regression framework, we also explore whether differences in demographic characteristics, in addition to educational attainment, might explain the differences in basic skills between welfare recipients and other adults (see Appendix D for a discussion of the model). We evaluate differences in basic skills that might be due to differences in age, gender, language spoken at home, and physical and mental disabilities. We find that the basic skills gap between welfare recipients and others persists even when we control for all of these characteristics in addition to educational attainment. In other words, the skills gap between welfare recipients and other adults cannot be fully explained by a host of sociodemographic factors. Even after controlling for mental and physical disabilities, age, gender, language, and marital status, we still find significant differences in basic skills between welfare recipients and similarly educated persons not receiving welfare (see Table 3.9). This persistence in the skills gap indicates that the gap is not merely a population composition effect: Welfare recipients with characteristics

Table 3.9

The Skills Gap and Population Composition Effects in the Nation

| Cumulative Controls | Skills Gap Between Welfare Recipients and Others Within Specified Educational Attainment Level | | | | |
	0–8 Years	9–12 Years	High School Graduate or GED	Some College	College Graduate
No controls within education group	−2	18	24	28	46
Physical/mental disabilities	−2	19	23	28	49
Language	9	20	23	28	43
Gender and age	11	24	22	21	32

SOURCE: Authors' regression models from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: The first row corresponds with the last column in the previous table.

similar to other adults have lower skills than those other adults. These findings have important implications for designing programs to improve the skill levels of welfare recipients. They suggest that the basic skills deficiencies of *most* welfare recipients are not due to easily identifiable problems such as English proficiency (or mental disabilities).

Similar analyses for California are shown in Tables 3.10 and 3.11. The primary finding that the skills gap persists even controlling for educational attainment and other factors is also true for California. However, we do see some unique California patterns. First, although the overall skills gap between welfare recipients and other adults is larger in California than in the nation, the skills gaps *within* educational attainment groupings are similar to those in the rest of the nation. Second, less-educated Californians (those who have not attended or graduated from college) have relatively lower basic skills than less-

Table 3.10

The Skills Gap and Educational Attainment Levels in California

Educational Attainment Level	Percent by Educational Attainment		Mean Quantitative Score		Difference in Scores (the Skills Gap)
	Welfare Recipients	All Other Adults	Welfare Recipients	All Other Adults	
0–8 years	16	8	129 (11.5)	125 (5.3)	–4
9–12 years	23	10	204 (8.5)	212 (6.8)	8
High school graduate or GED	44	30	237 (7.8)	257 (3.9)	20*
Some college	15	29	281 (6.8)	301 (2.6)	20*
College graduate	1	24	242 (71.9)	332 (2.8)	91

SOURCE: Authors' tabulations from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: * indicates significance at the .01 level. Standard errors in parentheses.

Table 3.11

The Skills Gap and Population Composition Effects in California

Cumulative Controls	Skills Gap Between Welfare Recipients and Others Within Specified Educational Attainment Level				
	0–8 Years	9–12 Years	High School Graduate or GED	Some College	College Graduate
No controls within education group	–4	8	20	20	91
Physical/mental disabilities	–4	7	17	20	91
Language	36	30	28	26	84
Gender and age	36	27	17	11	67

SOURCE: Authors' regression models from the NALS: sample restricted to adults aged 16 to 55 not in high school.

NOTE: The first row corresponds with the last column in the previous table.

educated adults in the rest of the nation (compare mean quantitative scores in Tables 3.8 and 3.10). The lower basic skills levels of adults in California compared to the nation can largely be attributed to language differences. California has a greater share of people for whom English is

a second language; such people tend to have lower basic skills (as measured in English) than do native English speakers. The difference in scores between less-educated adults in California and the rest of the nation is greatly diminished or eliminated once we control for language. Finally, after controlling for language, the skills gap between welfare recipients and other adults in California is especially large for poorly educated adults. In other words, when we compare welfare recipients with other adults who speak the same language, we observe that the skills gap is quite large among those with little education. Thus, the low basic skills of poorly educated welfare recipients in California is not due to an inability to speak English.

Estimating the Employment Prospects of Welfare Recipients

CalWORKs requires welfare recipients to work after receiving aid for no more than 24 months and no more than 18 months in the case of new applicants. Given these work requirements, it is important to consider what kinds of work welfare recipients might be able to find, given their skill levels.

Determining the likely experience of welfare recipients as they move off assistance is an uncertain undertaking. The success of welfare recipients in the labor force is a function not only of their individual characteristics and circumstances but also of local and nationwide economic conditions (particularly the availability of jobs). Projecting the demand for labor is beyond the scope of this research, but the NALS data do allow us to examine characteristics of welfare recipients and hence enable us to assess welfare recipients' potential for success in the labor force.

To assess the potential labor force outcomes of welfare recipients, we look at two other groups:

- **Welfare workers**—persons who received welfare and who worked at some point in the 12 months before the survey.[4]

- **Welfare counterparts**—persons who did not receive welfare but who had similar basic skills and sociodemographic characteristics as welfare recipients.

We contrast the labor force characteristics of those two groups with the labor force characteristics of other adults in the nation and in California.[5]

It is well known that many welfare recipients work while receiving welfare or cycle between work and welfare. In our sample, 48 percent of those who received welfare some time in the year before the survey also reported some earned income in that same year. The labor force

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[4]Note that we do not know the timing of work and welfare receipt within the prior year. Some welfare recipients worked and received welfare simultaneously; others received welfare during part of the year and worked during other parts of the year.

[5]We considered whether all low-skill workers might also serve as a proxy for the labor force prospects of welfare recipients. Most welfare recipients, welfare workers, and welfare counterparts are low-skilled. However, most low-skill adults are not welfare recipients and are not in our welfare counterparts group. We rejected all low-skill workers as a proxy for the potential labor force outcomes of welfare recipients. Persons with low skills who do not receive welfare constitute a very different population from welfare recipients, especially in California. Low-skill workers are more likely to be high school graduates, immigrants, male, married, and older than welfare recipients. Low-skill workers are less likely to have children than welfare recipients. Some of these differences are programmatic (for example, it is necessary to have children to receive welfare), but some of these differences, and, in fact, some of the programmatic differences, indicate that there might be very different labor markets for low-skill welfare recipients than for low-skill workers, and also different obstacles in finding work. Together, these differences are substantial and suggest that the type of work that many low-skill workers engage in might not be available to welfare recipients. Our welfare counterparts and welfare workers groups are better proxies for the potential labor force outcomes of welfare recipients because in addition to being primarily low-skill, they also have other characteristics similar to welfare recipients.

experience of these welfare workers could be a proxy for the labor force experience of welfare recipients who did not work in the prior year. The labor force experience of welfare workers probably represents an optimistic scenario for the potential labor force experience of recipients who did not work. For example, welfare workers in the nation have substantially higher basic skills, on average, and higher educational attainment levels than the welfare recipients who did not work in the year before the survey (see Table 3.12). In addition, welfare workers

Table 3.12
Characteristics of Welfare Recipients, by Work Status

	California		Rest of the Nation	
	Welfare Workers	Other Welfare Recipients	Welfare Workers	Other Welfare Recipients
Mean basic skills score	226 (12.0)	219 (7.3)	258 (3.4)	227 (2.4)
Educational attainment (%)				
0–8 years	16	17	8	14
9–12 years	21	24	23	34
High school graduate or GED	44	45	49	41
Some college	16	14	16	10
College graduate	3	0	4	1
Percent immigrants	34	30	10	13
Percent female	47	89	58	87
Percent married	45	24	38	25
Percent aged				
16–24	30	32	31	28
25–39	53	55	51	55
40–54	16	13	18	17
Percent with mental/physical				
disability	0	4	1	2
Percent with children aged < 6[a]	58	71		

SOURCE: Authors' tabulations from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: Welfare recipients who reported income from wages in the 12 months before the survey are classified as welfare workers. Standard errors in parentheses.

[a]California sample only.

were more likely to be married, less likely to have children, and much more likely to be male.

We define welfare counterparts as persons in the NALS who were very similar to welfare recipients in terms of basic skills, education, and demographic characteristics but who were not receiving welfare. Welfare counterparts were identified using a statistical model that controlled for quantitative skills score, education, age, disabilities, gender, marital status, and immigrant status.[6] As shown in Table 3.13, welfare counterparts are very similar to welfare recipients, with one important exception: Welfare counterparts do not receive welfare. Because welfare counterparts are similar to welfare recipients in terms of basic skills, education, and demographic characteristics, their labor force experience can serve as a proxy for the likely labor force experience of welfare recipients. Of course, there are differences between welfare recipients and workers that are either not measurable or that are not measured in the survey. For example, welfare counterparts might have better access to transportation, live in areas with numerous employment opportunities, have family members who can provide child care, have alternative sources of income, or have healthier or fewer dependents than welfare recipients. Such differences might allow our welfare counterparts to work rather than receive welfare (or to not work and not rely on welfare), but these factors were not measured by the NALS. Because these might be important determinants of welfare dependence, our findings probably represent a best case scenario. That is, the characteristics of jobs held by

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[6]For California, we also controlled for the presence of children younger than 6 years of age. See Appendix E for a complete discussion of the model.

Table 3.13

Characteristics of Welfare Recipients and Welfare Counterparts

	California		Entire Nation	
	Welfare Counterparts	Welfare Recipients	Welfare Counterparts	Welfare Recipients
Mean basic skills score	202 (7.5)	221 (6.2)	217 (2.0)	239 (2.0)
Educational attainment (%)				
0–8 years	20	16	13	11
9–12 years	26	23	38	29
High school graduate or				
GED	43	44	45	45
Some college	11	15	4	13
College graduate	0	1	0	2
Percent immigrants	37	32	11	11
Percent female	79	70	86	72
Percent married	33	34	17	32
Percent aged				
16–24	32	31	35	30
25–39	60	54	55	53
40–54	8	15	9	18
Percent with mental/physical				
disability	2	2	2	1
Percent with children aged < 6[a]	73	65		

SOURCE: Authors' tabulations from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: Welfare recipients who reported income from wages in the 12 months before the survey are classified as welfare workers.

[a]California sample only.

welfare counterparts and welfare workers are optimistic measures of the employment potential of welfare recipients in general.[7]

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[7]Some of this bias is offset by the slightly lower skill levels of welfare counterparts. As noted in Table 3.13, mean basic skills scores are slightly lower for welfare counterparts than for welfare recipients.

Labor Force Status[8]

Many welfare recipients will have difficulty finding work. Table 3.14 shows that unemployment rates are substantially higher for welfare counterparts than for other adults, and labor force participation rates are substantially lower. In California, almost 40 percent of welfare counterparts were either unemployed or out of the labor force (i.e., not employed and not looking for work) at the time of the survey. An

Table 3.14

Labor Force Status of Welfare Counterparts and Other Adults

	All Welfare Counterparts	Welfare Counterparts with Very Low Basic Skills	Other Non-Welfare Adults
California			
Not in the labor force	27.5%	33.1%	11.8%
In the labor force, unemployed	14.4%	11.2%	8.7%
In the labor force, employed part time	16.5%	17.0%	13.8%
In the labor force, employed semi-permanently full time	8.6%	10.8%	7.5%
In the labor force, permanently employed full time	33.0%	28.0%	58.3%
Rest of Nation			
Not in the labor force	21.4%	29.1%	13.1%
In the labor force, unemployed	12.3%	14.3%	6.7%
In the labor force, employed part time	15.9%	13.8%	12.2%
In the labor force, employed semi-permanently full time	10.4%	11.1%	7.6%
In the labor force, permanently employed full time	40.1%	31.6%	60.4%

SOURCE: Authors' tabulations and models from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: Full-time employment is 35 hours per week or more; permanent employment is 40 weeks per year or more. Very low basic skills correspond to basic quantitative skills scores of less than 225.

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[8]Individuals are either in the labor force employed, in the labor force unemployed, or not in the labor force.

additional 23 percent were employed either part time or semi-permanently. Welfare counterparts with very low basic skills have especially weak attachments to the labor force. Only 28 percent of very low-skill welfare counterparts in California were permanently employed full time in the year before the survey (compared to 33 percent for all welfare counterparts and 58 percent for the rest of adults in the state). Unemployment rates for welfare counterparts were more than twice those of other adults (20 percent compared to 9 percent).

The low labor force participation rates and high unemployment of welfare counterparts might overstate the difficulty of welfare recipients in finding work, since social support systems available to welfare counterparts might not be available to welfare recipients. These social support systems might provide financial support and could lessen the urgency of finding employment for welfare counterparts. However, such support systems might also be important sources of job information and referrals.

Still, the very low labor force participation rates of welfare counterparts suggest that many welfare recipients might not transition from welfare to work, but might instead transition from welfare to dependence on friends or family (or, perhaps, homelessness if they lack such support networks). Early reviews of the decline in welfare caseloads indicate that many former welfare recipients do not seem to be employed.[9]

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[9]For example, an analysis of New York state welfare and employment data revealed that a substantial share of former welfare recipients did not appear to be employed in the state of New York ("Most Dropped from Welfare Don't Get Jobs," *New York Times,* March 23, 1998).

Earnings

Even when persons with the basic skills and sociodemographic characteristics of welfare recipients do find work, their earnings are often not enough to lift them out of poverty. Over the course of an entire year, welfare counterparts in California who worked earned an average income of $12,400, and over half did not have sufficient earnings to lift a family of three out of poverty.[10] Table 3.15 shows the distribution of annual income for welfare counterparts, welfare workers, and other workers in California and the rest of the nation. Even if we restrict our analysis to full-time workers, we observe very low average weekly wages for welfare counterparts working full time and for full-time workers who received welfare some time in the past year (see Table 3.16). As with labor force status, the findings are particularly bleak for persons with very low basic skills. Welfare counterparts in California with very low basic skills earned less than $10,000 per year on average, and fully 70 percent did not earn enough to lift a family of three out of poverty (see Table 3.17).[11] The low annual earnings of this group reflect, in part, their lack of year-round full-time employment. Intermittent employment is a problem common to many low-skill workers. However, even when we consider weekly earnings of welfare counterparts with very low basic skills who work full time, we still observe very low wage levels.

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[10]Converting these earnings to 1998 dollars and using the 1998 Earned Income Tax Credit lowers this figure to 44 percent.

[11]Converting these earnings to 1998 dollars and using the 1998 Earned Income Tax Credit lowers this figure to 52 percent.

Table 3.15

Earnings of Welfare Workers, Welfare Counterparts, and Other Adults

	Welfare Workers	Welfare Counterparts	Other Non-Welfare Adults
California			
Average annual earnings among those with earnings ($)	7,917	12,383	26,830
< 4,999	48.5	33.6	12.2
5,000–9,999	17.1	17.5	9.4
10,000–14,999	16.1	16.5	14.3
15,000–19,999	9.8	11.5	12.9
20,000–24,999	6.0	6.4	9.3
25,000–29,999	0.9	4.9	8.2
30,000 +	1.5	9.7	33.7
Rest of Nation			
Average annual earnings among those with earnings ($)	8,937	10,360	22,445
< 4,999	45.6	28.8	14.5
5,000–9,999	23.1	27.2	12.7
10,000–14,999	13.2	22.5	14.9
15,000–19,999	8.5	11.2	13.1
20,000–24,999	4.6	5.5	10.8
25,000–29,999	0.6	2.3	8.7
30,000 +	4.1	2.6	25.2

SOURCE: Authors' tabulations and models from the NALS; sample restricted to adults aged 16 to 55 not in high school.

Occupations

Welfare workers and welfare counterparts are concentrated in occupations that typically consist of low-skill, low-wage, high-turnover jobs. Relative to other adult workers, welfare counterparts and welfare workers are vastly underrepresented in managerial and professional occupations and are especially overrepresented in service sector jobs (see Table 3.18). Although a detailed delineation of the occupations within the broad categories shown in Table 3.18 is not possible given our

Table 3.16

Earnings of Welfare Workers, Welfare Counterparts, and Other Adults Currently Working Full Time

	Full-Time Welfare Workers	Welfare Counterparts Working Full Time	Other Full-Time Workers
California			
Average annual earnings ($)	13,347	17,468	32,381
< 4,999	16.9	11.6	3.5
5,000–9,999	22.4	13.4	5.2
10,000–14,999	26.7	21.7	13.4
15,000–19,999	12.5	15.5	14.2
20,000–24,999	14.2	10.1	11.4
25,000–29,999	2.8	9.3	9.6
30,000 +	4.5	15.5	42.7
Rest of Nation			
Average annual earnings ($)	14,161	13,187	26,732
< 4,999	20.2	11.0	4.6
5,000–9,999	25.4	27.3	8.9
10,000–14,999	20.4	30.6	15.4
15,000–19,999	14.8	15.9	15.2
20,000–24,999	9.5	8.3	13.1
25,000–29,999	1.0	3.6	10.7
30,000 +	8.7	3.2	32.2

SOURCE: Authors' tabulations and models from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: Full-time employment is 35 hours per week or more.

sample size, we do note that the average wage of welfare counterparts and welfare workers is much lower than that of other workers within the same occupational category (see Table 3.18). For example, welfare counterparts earned about one-third less per week than other adults in service occupations. In no occupational category did welfare counterparts earn more than 70 percent of the earnings of other adults. Weekly earnings of welfare workers are even lower than the earnings of welfare counterparts.

Table 3.17

**Earnings of Welfare Workers with Very Low Basic Skills, Welfare
Counterparts with Very Low Basic Skills,
and Other Non-Welfare Adults**

	Welfare Workers with Very Low Basic Skills	Welfare Counterparts with Very Low Basic Skills	Other Non-Welfare Adults (Any Skill Level)
California			
Average annual earnings among			
those with earnings ($)	6,615	9,926	28,830
< 4,999	50.2	38.4	12.2
5,000–9,999	19.8	23.0	9.4
10,000–14,999	17.4	18.9	14.3
15,000–19,999	10.5	6.2	12.9
20,000–24,999	2.1	5.5	9.3
25,000–29,999	0	1.8	8.2
30,000 +	0	6.2	33.7
Rest of Nation			
Average annual earnings among			
those with earnings ($)	7,155	9,458	26,732
< 4,999	48.4	32.3	14.1
5,000–9,999	26.7	33.3	12.7
10,000–14,999	11.3	20.0	14.9
15,000–19,999	6.3	6.9	13.1
20,000–24,999	5.9	2.7	10.8
25,000–29,999	0.2	1.9	8.7
30,000 +	1.3	3.0	25.2

SOURCE: Authors' tabulations and models from the NALS; sample restricted to adults aged 16 to 55 not in high school.

NOTE: Very low basic skills correspond to basic quantitative skills scores of less than 225.

Industry

Welfare workers and welfare counterparts are also concentrated in industrial sectors of the economy that are typified by low-skill, low-wage, high-turnover jobs. As shown in Table 3.19, welfare workers and welfare counterparts are substantially overrepresented in personal services and

Table 3.18

**Occupational Profile of Welfare Workers, Welfare Counterparts,
and Other Adults**

Occupation	Welfare Workers	Welfare Counterparts	Other Adults
Percentage Among Those with Work			
Service	32.3	34.6	16.6
Farming, forestry, and fishing	4.8	3.1	2.6
Technical, sales, and admin. support	21.5	35.5	32.4
Precision production, craft, repair	32.2	24.7	26.3
Managerial and professional	9.2	2.1	22.1
Average Weekly Earnings ($)			
Service	167	146	210
Farming, forestry, and fishing	212	148	241
Technical, sales, and admin. support	211	190	321
Precision production, craft, repair	312	188	337
Managerial and professional	421	290	681

SOURCE: Authors' tabulations and models from the NALS; sample restricted to adults aged 16 to 55 not in high school.

agriculture and underrepresented in professional services. Welfare workers and welfare counterparts earn substantially lower wages than other adults employed in the same industry. Thus, not only are welfare workers and welfare recipients concentrated in low-paying industries, they tend to occupy the lower-level jobs within an industry.

Summary of Findings on Employment Prospects

On the basis of our analysis of the labor force characteristics of welfare workers and welfare counterparts, we find that the labor force prospects of welfare recipients are not especially promising. Welfare recipients are not likely to find jobs that would pay sufficient wages to lift them out of poverty.[12] In addition, welfare recipients face a segment of

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[12]The picture is not quite so bleak if we consider the Earned Income Tax Credit.

Table 3.19

**Industrial Profile of Welfare Workers, Welfare Counterparts,
and Other Adults**

Occupation	Welfare Workers	Welfare Counterparts	Other Adults
Percentage Among Those with Work			
Agriculture, forestry, fishing, and mining	3.9	2.8	3.0
Construction	5.5	3.9	6.2
Manufacturing	19.2	17.5	17.4
Trade	26.1	33.9	20.3
Personal services	7.2	8.3	3.6
Professional service	22.3	17.4	23.4
Other	15.9	16.2	26.1
Average Weekly Earnings ($)			
Agriculture, forestry, fishing, and mining	220	136	291
Construction	243	165	374
Manufacturing	311	193	427
Trade	159	133	261
Personal services	163	159	199
Professional service	289	174	427
Other	310	266	462

SOURCE: Authors' tabulations and models from the NALS; sample restricted to adults aged 16 to 55 not in high school.

the labor market that has relatively high unemployment and low labor force participation, suggesting that many recipients will encounter difficulty in finding employment. Still, we do find that most adults with skills and measurable characteristics similar to welfare recipients are working. Indeed, we find that over half of welfare counterparts are employed. For reasons noted above, these employment rates represent an optimistic scenario for welfare recipients. Because welfare recipients represent a substantial share of the low-skill population in California, their movement off welfare could increase already high unemployment rates and decrease already low labor force participation rates among low-skill residents of the state. Finally, we find that welfare recipients with

very low basic skills levels will have the greatest difficulty in transitioning from work to welfare.

4. Policy Implications

If the goal of welfare reform is to move people off welfare, then it can and will work, even if only in a deterministic manner.[1] Huge reductions in caseloads nationwide and in many states suggest that welfare reform has played a part in reducing caseloads even before most individuals are subject to work requirements and elimination from the rolls.[2] However, if the goal of welfare reform is to move people from welfare to work, our findings suggest that welfare reform will have mixed results. Some, perhaps the majority, of welfare recipients will find work, but a substantial share will not. It is not clear how those who do not find work will respond to reductions in welfare benefits or outright elimination in eligibility for welfare. If the goal of welfare reform is to improve basic skills via the workplace, our findings suggest that welfare reform will probably not work. The types of jobs welfare recipients are likely to

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[1]By deterministic we mean the elimination of aid via eligibility requirements. That is, after a welfare recipient has received aid for a lifetime total of 60 months, states can and some will deny further benefits regardless of the recipient's employment status.

[2]Of course, the strong economy might account for most of the decline.

qualify for do not generally provide the kind of training that could lead to improvements in basic skills and better employment prospects in the future. Finally, if the goal is to lift people out of poverty, our findings indicate limited success.

Welfare reform has changed the standard for success in transitioning people from welfare to work. Under TANF and CalWORKs, every able-bodied welfare recipient is expected to work. Failure to work will result in either a reduction in welfare payments or elimination from welfare altogether. Although the ultimate success of welfare reform will be determined after time limits are encountered, the social and individual costs of failure require that we anticipate and respond to potential impediments to success before that time. Our findings suggest that without improvement in basic skills, many welfare recipients will not be successfully integrated into the labor force. California faces an even greater challenge. The basic skills of welfare recipients in the state are lower than those of welfare recipients in the rest of the country, and the skills gap between workers and welfare recipients is larger.

The low skills of welfare recipients are not easily amenable to change. Many recipients have graduated from high school, yet even after a dozen years of schooling they are unable to perform simple tasks commonly encountered in the workplace. The track record of training programs is not especially promising.[3] We are also skeptical that on the job training

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[3]Even among programs cited as successful, it is not clear how appropriate they are as a basis for comparison. For example, the Center for Education and Training (in San Jose, California) is commonly cited as a successful program. However, it is a voluntary program for minority female single parents; approximately one-third of the past recipients have never been on welfare. Five years after enrolling in the program, increases in earnings relative to a control group were substantial only for women who entered the program with 12 or more years of education (Zambroski and Gordon, 1993).

will provide these skills—especially considering the types of jobs that welfare recipients might hold.

The difficulty in improving the basic skills of welfare recipients does not mean that we should not try. It does mean that we need to be realistic about the costs of improving basic skills and of providing meaningful training. Basic skills and training programs need to be critically assessed, with their costs weighed against their benefits. Programs that seem most promising are those that focus on employment and integrate real job situations into the vocational and basic skills training (U.S. Department of Labor, 1995). Those programs should be pursued on a wider basis.

Ultimately, we might need to accept that a substantial portion of welfare recipients will continue to need some form of income support, either because their very low skills make them virtually unemployable or because the work they find is of such low quality (and quantity) that they are still living in poverty.

Appendix A

The National Adult Literacy Survey: Examples of Tasks and Difficulty Levels[1]

The NALS defines literacy as the "ability to understand and employ printed information in daily activities at home, at work, and in the community to achieve one's goals and develop one's knowledge and potential." As noted in the text of this report, we prefer the term "basic skills."

In the NALS, basic skills are measured on three scales:

- **Prose skills**: the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and fiction—for example, finding a piece of information in a newspaper article, interpreting instructions from a warranty, inferring a theme from a poem, or contrasting views expressed in an editorial.

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[1]The following examples and discussions are taken from Kirsch et al. (1993).

- **Document skills**: the knowledge and skills required to locate and use information contained in materials that include job applications, payroll forms, transportation schedules, maps, tables and graphs—for example, locating a particular intersection on a street map, using a schedule to choose the appropriate bus, or entering information on an application form.

- **Quantitative skills**: the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed materials—for example, balancing a checkbook, figuring out a tip, completing an order form, or determining the amount of interest from a loan advertisement.

Skills levels are grouped by NALS into five categories. The outline below describes those categories for quantitative skills, and provides examples of tasks.

Quantitative Level 1
Scale Range: 0–225

Tasks in this level require participants to perform single, relatively simple arithmetic operations such as addition. The numbers to be used are provided and the arithmetic operation to be performed is specified.

Example: The respondent is shown a bank deposit slip and asked to figure the total amount of two checks being deposited. They are asked to enter the amount on the form in the space labeled "TOTAL."

Quantitative Level 2
Scale Range: 226–275

Tasks in this level typically require readers to perform a single operation using numbers that are either stated in the task or easily

located in the material. The operation to be performed may be stated in the question or easily determined from the format of the material.

Example: The respondent is directed to complete an order form for office supplies using a page from a catalogue. No other specific instructions as to what parts of the form should be completed are given in the directive.

Quantitative Level 3
Scale Range: 276–325

In tasks in this level, two or more numbers are typically needed to solve the problem, and these must be found in the material. The operation(s) needed can be determined from the arithmetic terms used in the question or directive.

Example: The respondent is given a bus schedule and asked the following question. "Suppose that you took the 12:45 p.m. bus from U.A.L.R. Student Union to 17th and Main on a Saturday. According to the schedule, how many minutes is the bus ride?"

Quantitative Level 4
Scale Range: 326–375

These tasks tend to require that readers perform two or more sequential operations or a single operation in which the quantities are found in different types of displays, or the operations must be inferred from the semantic information given or drawn from prior knowledge.

Example: The respondent is asked to select the information necessary from two price labels to estimate the cost per ounce of creamy peanut butter. The price required for the calculation is given in

dollars/lb: The price on the labels is given in dollars and the quantity is given in ounces.

Quantitative Level 5
Scale Range: 376–500

These tasks require readers to perform multiple operations sequentially. They must disembed the features of the problem from text or rely on background knowledge to determine the quantities or operations needed.

Example: The respondent is asked to look at an advertisement for a home equity loan and then, using the information given, explain how they would calculate the total amount of interest charges associated with the loan.

Appendix B

The National Adult Literacy Survey: Sampling Design and Scoring

The national and state samples were drawn using a four-stage, stratified sampling procedure. The four stages were the primary sampling unit level, followed by the census block level, the household level, and finally the selection of age-eligible individuals. The primary sampling units consisted of counties or groups of counties and were stratified according to census region, metropolitan status, percentage of Black residents, percentage of Hispanic residents, and, whenever possible, per capita income. In the national sample, Black and Hispanic individuals were sampled at a higher rate to increase their representation in the survey. Table B.1 shows response rates for the national and California samples. Although the NALS exam was given only in English, the screener survey was given in both English and Spanish. Response rates in California were similar to those for the nation. The ETS did attempt to correct for non-participation and for non-completion of the

Table B.1

NALS Response Rates

	Percent Completing in	
Instrument	Nation	California
Screener	88.8	87.6
Background questionnaire	81.9	79.0
Exercise booklet	95.3	95.3
Overall	69.3	66.0

SOURCE: Kolstad et al. (forthcoming).
NOTE: Weighted to reflect national adult population.

exam. Because low basic skills due to poor proficiency in English should be understood and addressed differently than low basic skills for native English speakers, we control for language in our analyses.

Because the goal of the NALS was to produce accurate population estimates of basic skills, a broad range of simulation tasks (165 in total) were administered. However, time did not permit each respondent to answer every question. Thus, each participant responded to a subset of questions (approximately 39 tasks per test booklet), selected such that the 165 tasks were administered to a nationally representative sample. Since some subsets of tasks may have been more difficult than others, basic skills proficiencies could not be reported as a percentage of correct answers. Moreover task-by-task reporting ignores the similarities of subgroups' response patterns across tasks. These limitations were addressed by using item response theory scaling. The idea behind this scaling is that when several tasks require similar skills, the response patterns should have some regularity. This regularity can be used to characterize both respondents and tasks in terms of a common standard scale.

Although each individual completed only a subset of the total number of basic skills tasks, the NALS design allowed for a wide range of content representation when responses are summed for all respondents. The advantage of this design is that it yields more precise population estimates; however, this advantage is offset by the fact that it yields less precise individual estimates. Thus, NALS individual scores are not test scores in the usual sense; rather, they consist of five plausible scores for each of the three basic skills scales. We report the average of these five scores for each individual. Plausible scores were drawn from a posteriori distributions that were a function of the task difficulty of items answered correctly and background variables (gender, ethnicity, languages spoken, region of country, education, parents' education, occupation, and reading practices). Because these background variables do not include the receipt of public aid, the scoring approach used by ETS reduces our ability to discern differences in the basic skills between welfare recipients and other adults.

Because of the complexity of the NALS scoring procedures, even the calculation of descriptive statistics is not entirely straightforward. Individual scores are estimated as the mean of the five plausible values for the given type of skill. Population means are calculated as the weighted mean of individual scores. We report standard errors that are corrected using a design effect of 2.0. The design effect is derived via bootstrap procedures that take into account both the sampling design and the within-individual variation in plausible scores.

Appendix C
NALS and Labor Force Outcomes

We performed a series of regressions to identify the association between NALS scores and earnings. In our regression models using NALS scores as predictors of the log of earnings, we find that NALS scores are at least as strong predictors of earnings as educational attainment. For example, using a restricted sample of males currently working full time, we performed two separate regressions on the log of earnings. In the first regression, using only age and the quantitative skills score as the independent variables, we obtained an R^2 value of .24; the second regression, using only age and educational attainment levels as the independent variables, resulted in an R^2 value of .21 (see Table C.1).

We also performed separate regressions by educational attainment group on the log of earnings, using only age and the quantitative skills score as the independent variables. We find that quantitative skills are a significant predictor of wages within educational attainment groups, with

Table C.1

Wage Equations Using Quantitative Basic Skills and Education
as Dependent Variables

Model 1: Log of earnings as dependent variable and age and quantitative basic skills score as independent variables; full-time male workers.

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for HO: Parameter=0	Prob > |T|
INTERCEP	1	7.550736	0.06075985	124.272	0.0001
DAGE	1	0.029478	0.00111297	26.486	0.0001
Q5MEAN	1	0.004852	0.00016285	29.791	0.0001
R^2	0.2381				

Model 2: Log of earnings as dependent variable and age and educational attainment (four dichotomous variables with high school graduates as the reference group) as independent variables; full-time male workers.

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for HO: Parameter=0	Prob > |T|
INTERCEP	1	8.845423	0.04353709	203.170	0.0001
DAGE	1	0.029048	0.00113192	25.663	0.0001
A08	1	−0.523481	0.05399125	−9.696	0.0001
A912	1	−0.268713	0.04026412	−6.674	0.0001
ASOCOLL	1	0.188651	0.02710818	6.959	0.0001
ACOLPOST	1	0.530805	0.02615461	20.295	0.0001
R^2	0.2234				

R^2 values ranging from .14 to .19 depending on the group.[1] In each regression, the quantitative skills coefficient was significant at the .01 level and ranged in value from .0026 to .0046.

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[1]The lone exception was for individuals with less than an eighth-grade education. In that group, the R^2 was only .09.

Although the prose, document, and quantitative scores are highly correlated (.93–.95), we selected the quantitative scores in our analyses because Reder and Wikelund (1994) show that higher math gains are associated with lower subsequent welfare utilization.

Appendix D

Regressions on Quantitative Basic Skills Score

To determine whether the basic skills gap between welfare recipients and other adults can be explained as a population composition effect, we performed a series of regressions. In all the models, the dependent variable is quantitative literacy score. Independent variables represent demographic and other individual characteristics. Independent variables were added consecutively to the models, thereby introducing a series of cumulative controls. Separate models were developed for each educational attainment level and by welfare status. To evaluate the population composition effect, we predicted the mean quantitative literacy score for welfare recipients, assuming they had the same population composition characteristics as persons who did not receive welfare. This was done by applying the coefficients from the regressions for welfare recipients to the non-welfare means of the values of the population composition variables. The difference between the mean

literacy score for non-welfare adults and the predicted mean literacy score for welfare recipients is taken as the difference in basic skills after adjusting for population composition and is reported in Tables 3.9 and 3.11.

Table D.1 describes the variables and in Table D.2 we report variable means and parameter estimates from the models .

Table D.1
Variables Used in Regressions to Evaluate Basic Skills Gap

	Description
Dependent variable	
Q5MEAN	Mean of five plausible values for quantitative basic skills score from the NALS
Groups of models run separately for educational attainment levels	
_08yr	1= 0–8 years of education
_912yr	1 = 9–12 years of education
hsGEDtr	1 = high school graduate or GED completion
somecol	1 = attended some college
colpost	1 = completed a bachelor's degree or more
Independent variables	
CA	1 = California resident
Disability	
MENTAL	1 = mental disability
PHYSICAL	1 = physical disability
Language	
HBIENG	1= speak English and another language at home
HSP	1 = speak Spanish at home
HOTHR	1= speak a language other than English or Spanish at home
Demographic	
MALE	1 = male
MARITAL	1 = married
Age	
_1618_	1 = aged 16–18
_1924_	1 = aged 19–24
_4054_	1 = aged 40–54

Table D.2

Descriptive Statistics and Regression Results

Variables	Sum	Mean	Model 1	Model 2	Model 3	Model 4
			Educational attainment: _08yr; Welfare: No			
INTERCEP	726	1.000	166.45***	169.20***	199.38***	192.80***
CA	174	0.240	−41.41***	−44.16***	−9.21	−11.87
PHYSICAL	14	0.019		−8.18	−28.42	−26.16
MENTAL	19	0.026		−73.79***	−97.86***	−90.73***
HBIENG	26	0.036			5.26	3.47
HSP	382	0.526			−69.36***	−71.04***
HOTHR	41	0.056			−21.83	−24.99
MALE	373	0.514				−0.19
MARITAL	422	0.581				16.22***
_1618_	23	0.032				28.55
_1924_	61	0.084				7.51
_4054_	331	0.456				−6.03
Q5MEAN		156.529				
			Educational attainment: _08yr; Welfare: Yes			
INTERCEP	173	1.000	166.78***	167.80***	195.02***	196.04***
CA	40	0.231	−37.59***	−38.61***	8.66	−1.03
PHYSICAL	5	0.029		−27.04***	−54.26***	−40.08***
MENTAL	0	.		.	.	.
HBIENG	19	0.110			−4.88	0.75
HSP	70	0.405			−86.51***	−83.03***
HOTHR	6	0.035			−52.77***	−63.28**
MALE	45	0.260				−1.63
MARITAL	58	0.335				22.37
_1618_	12	0.069				5.98
_1924_	26	0.150				4.04
_4054_	48	0.277				−32.25**
Q5MEAN		158.089				
			Educational attainment: _912yr; Welfare: No			
INTERCEP	1576	1.000	229.35***	230.67***	237.83***	230.99***
CA	179	0.114	−17.59***	−18.91***	4.80	4.24
PHYSICAL	15	0.010		−24.92	−24.43	−20.40
MENTAL	13	0.008		−113.12	−120.50	−120.05***
HBIENG	145	0.092			−4.57	−5.88
HSP	214	0.136			−65.78	−68.93***
HOTHR	25	0.016			−27.83	−28.49*
MALE	747	0.474				1.91
MARITAL	761	0.483				14.64***
_1618_	117	0.074				20.82***
_1924_	291	0.185				5.66
_4054_	494	0.313				−10.03**
Q5MEAN		227.356				

Table D.2 (continued)

			Educational attainment: _912yr; Welfare: Yes			
INTERCEP	523	1.000	209.64***	209.94***	213.03***	211.25***
CA	59	0.113	−5.54	−4.29	6.04	5.49
PHYSICAL	7	0.013		−9.86	−12.95	−0.93
MENTAL	2	0.004		−81.54	−86.71	−98.18*
HBIENG	37	0.071			4.86	1.82
HSP	52	0.099			−46.19***	−45.08***
HOTHR	3	0.006			8.84	21.60
MALE	79	0.151				−5.07
MARITAL	121	0.231				8.79
_1618_	37	0.071				8.10
_1924_	150	0.287				8.06
_4054_	64	0.122				−19.53**
Q5MEAN		209.012				
			Educational attainment: hsGEDtr; Welfare: No			
INTERCEP	5877	1.000	276.34***	276.95***	280.82***	270.78***
CA	462	0.079	−19.24***	−19.22***	−6.95**	−5.54*
PHYSICAL	24	0.004		−49.86***	−47.04***	−43.46***
MENTAL	17	0.003		−138.57***	−143.66***	−137.48***
HBIENG	405	0.069			−6.40*	−7.66**
HSP	298	0.051			−65.81***	−67.51***
HOTHR	128	0.022			−48.57***	−49.86***
MALE	2619	0.446				3.62**
MARITAL	3260	0.555				15.95***
_1618_	101	0.017				15.53*
_1924_	851	0.145				2.00
_4054_	2025	0.345				−2.65
Q5MEAN		274.832				
			Educational attainment: hsGEDtr; Welfare: Yes			
INTERCEP	761	1.000	252.33***	252.86***	255.48***	250.27***
CA	87	0.114	−15.48*	−11.18	−6.58	−5.40
PHYSICAL	4	0.005		−33.53	−34.88	−35.25
MENTAL	5	0.007		−128.82***	−133.66***	−130.90***
HBIENG	39	0.051			−8.38	−7.87
HSP	56	0.074			−34.63***	−34.81***
HOTHR	4	0.005			−24.64	−28.34
MALE	157	0.206				6.15
MARITAL	192	0.252				6.34
_1618_	7	0.009				7.15
_1924_	180	0.237				10.67*
_4054_	99	0.130				−3.02
Q5MEAN		250.560				

Educational attainment: somecol; Welfare: No						
INTERCEP	4586	1.000	303.28***	303.50***	306.42***	297.33***
CA	563	0.123	−2.38	−2.30	1.53	1.82
PHYSICAL	11	0.002		−54.20***	−50.78***	−48.44***
MENTAL	4	0.001		−114.73***	−120.31***	−119.80***
HBIENG	374	0.082			−10.25***	−10.21***
HSP	147	0.032			−52.08***	−52.92***
HOTHR	100	0.022			−40.51***	−42.04***
MALE	2032	0.443				7.52***
MARITAL	2250	0.491				9.76***
_1618_	24	0.005				6.04
_1924_	1084	0.236				6.14***
_4054_	1305	0.285				−1.73
Q5MEAN		302.993				

Educational attainment: somecol; Welfare: Yes						
INTERCEP	296	1.000	274.08***	274.28***	277.02***	268.04***
CA	40	0.135	6.87	6.67	7.81	7.01
PHYSICAL	2	0.007		−26.23	−28.97	−36.33
MENTAL	0	–		0.00	0.00	0.00
HBIENG	24	0.081			−15.50	−13.09
HSP	11	0.037			−41.60**	−44.59***
HOTHR	1	0.003			−20.42	−43.32
MALE	60	0.203				7.97
MARITAL	76	0.257				24.71***
_1618_	1	0.003				6.51
_1924_	70	0.236				4.84
_4054_	49	0.166				−0.01
Q5MEAN		275.005				

Educational attainment: colpost; Welfare: No						
INTERCEP	3940	1.000	331.51***	331.62***	335.05***	324.54***
CA	442	0.112	0.89	0.78	3.15	3.63
PHYSICAL	6	0.002		−35.05	−38.48*	−41.33*
MENTAL	1	0.000		−166.40***	−157.11***	−145.29***
HBIENG	314	0.080			−12.72***	−12.97***
HSP	68	0.017			−51.99***	−52.21***
HOTHR	176	0.045			−39.94***	−41.89***
MALE	1928	0.489				11.49***
MARITAL	2321	0.589				9.62***
_1618_	0	.				.
_1924_	242	0.061				−4.85
_4054_	1562	0.396				−1.06
Q5MEAN		331.608				

Table D.2 (continued)

Educational attainment: colpost; Welfare: Yes						
INTERCEP	43	1.000	287.81***	287.81***	298.94***	284.55***
CA	2	0.047	−46.08	−46.08	−38.74	−43.59
PHYSICAL	0	.		.	.	.
MENTAL	0	.		.	.	.
HBIENG	4	0.093			−36.93	−34.87
HSP	3	0.070			−79.07*	−85.43**
HOTHR	4	0.093			−27.07	−53.73
MALE	16	0.372				−12.92
MARITAL	16	0.372				52.56***
_1618_	0	.				.
_1924_	3	0.070				−3.18
_4054_	25	0.581				4.84
Q5MEAN		285.667				

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Appendix E
Determination of Welfare Counterparts

We use logistic regression models to predict the probability of receiving welfare. We defined *welfare counterparts* as persons who did not receive welfare but who were predicted to be welfare recipients by the model. In the logistic regression framework, welfare counterparts are false positives. The goal of the regressions is to identify persons who are *not* welfare recipients but who have characteristics associated with the receipt of welfare. That is, we want to identify a population that is very like welfare recipients to determine what kinds of labor force outcomes welfare recipients might achieve as they move off welfare.

We developed two models: one for California, and one for the rest of the United States. The models were developed separately because the California sample includes a question on the presence of children younger than six years of age in the household, whereas the sample in the rest of the nation does not include such information. The presence of children younger than six years old is an important predictor of welfare

receipt. Variables used in the models are described in Table E.1 and the results are shown in Table E.2. Some variables that might be highly predictive of welfare receipt were intentionally left out of the model. For example, although income is a strong predictor of welfare receipt, to place it in the model would inappropriately prescribe our findings (apart from problems of endogeneity).

Table E.1

Variables Used in Logit Regressions to Identify Welfare Counterparts

	Description
Dependent variable	
AFDCPAPW	0 = did not receive welfare in the prior year
	1 = received welfare in the prior year
Independent variables	
Education	
A08	1 = 0–8 years of education
A912	1 = 9–12 years of education
ASOCOLL	1 = some college
ACOLPOST	1 = completed a bachelor's degree or more
Age	
_1618_	1 = aged 16–18
_1924_	1 = aged 19–24
_4054_	1 = aged 40–54
Q5MEAN	Mean of five plausible values for quantitative basic skills score from NALS
MENTAL	1 = mental disability
PHYSICAL	1 = physical disability
MALE	1 = male
MARITAL	1 = married
USA	1 = U.S. born
KIDS6	1 = has children younger than six years of age (California regression only)

NOTE: Omitted or reference categories are high school graduates and persons aged 25–39.

Table E.2

Logistic Regressions Used to Identify Welfare Counterparts

Model 1: Logistic Regression for the Rest of the United States
Number of Observations: 16485

Response Profile

Ordered Value	AFDCPAPW	Count
1	1	1572
2	0	14913

Model Fitting Information and Testing Global Null Hypothesis BETA = 0

Criterion	Intercept Only	Intercept and Covariates	Chi-Square for Covariates
–2 LOG L	10377.810	8112.043	2265.768 with 13 DF (p = 0.0001)
R^2 = 0.1284		Max-rescaled R^2 = 0.2749	

Analysis of Maximum Likelihood Estimates

Variable	DF	Parameter Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square	Standard-ized Estimate	Odds Ratio
INTERCPT	1	0.7698	0.1752	19.3072	0.0001	.	.
A08	1	0.2237	0.1321	2.8688	0.0903	0.024616	1.251
A912	1	0.5343	0.0782	46.6644	0.0001	0.093225	1.706
ASOCOLL	1	–0.5584	0.0814	47.0306	0.0001	–0.134960	0.572
ACOLPOST	1	–1.7277	0.1679	105.8286	0.0001	–0.391130	0.178
_1618_	1	–0.8006	0.1845	18.8214	0.0001	–0.057927	0.449
_1924_	1	–0.00961	0.0735	0.0171	0.8959	–0.001936	0.990
_4054_	1	–1.0755	0.0804	178.9236	0.0001	–0.278323	0.341
Q5MEAN	1	–0.00975	0.00062	247.3045	0.0001	–0.331453	0.990
MENTAL	1	–2.8920	0.6302	21.0576	0.0001	–0.091945	0.055
PHYSICAL	1	0.5078	0.3367	2.2741	0.1316	0.019697	1.662
MALE	1	–1.3033	0.0701	345.7192	0.0001	–0.355978	0.272
MARITAL	1	–1.0112	0.0660	234.7345	0.0001	–0.278607	0.364
USA	1	0.8666	0.1240	48.8696	0.0001	0.131319	2.379

Table E.2 (continued)

Model 2: Logistic Regression for California
Number of Observations: 2071

Response Profile

Ordered Value	AFDCPAPW	Count
1	1	233
2	0	1838

Model Fitting Information and Testing Global Null Hypothesis BETA = 0

Criterion	Intercept Only	Intercept and Covariates	Chi-Square for Covariates
−2 LOG L	1456.836	1027.799	429.038 with 14 DF (p = 0.0001)
$R^2 = 0.1871$			Max-rescaled R^2 = 0.3704

Analysis of Maximum Likelihood Estimates

Variable	DF	Parameter Estimate	Standard Error	Wald Chi-Square	Pr > Chi-Square	Standardized Estimate	Odds Ratio
INTERCPT	1	−0.5536	0.4196	1.7404	0.1871	.	.
A08	1	−0.1170	0.3032	0.1489	0.6995	−0.019640	0.890
A912	1	0.0644	0.2300	0.0785	0.7794	0.011333	1.067
ASOCOLL	1	−0.6243	0.2293	7.4099	0.0065	−0.156393	0.536
ACOLPOST	1	−2.8346	0.7362	14.8260	0.0001	−0.641525	0.059
_1618_	1	1.1970	0.4223	8.0356	0.0046	0.085084	3.310
_1924_	1	−0.1228	0.2128	0.3331	0.5638	−0.025522	0.884
_4054_	1	−0.2389	0.2370	1.0161	0.3135	−0.060130	0.788
Q5MEANCA	1	−0.00726	0.00175	17.1394	0.0001	−0.320705	0.993
MENTAL	1	1.0530	1.0546	0.9971	0.3180	0.031211	2.866
PHYSICAL	1	0.0675	1.2346	0.0030	0.9564	0.002002	1.070
MALE	1	−0.7870	0.1821	18.6720	0.0001	−0.216368	0.455
MARITAL	1	−1.6156	0.1936	69.6693	0.0001	−0.445121	0.199
USA	1	0.9102	0.2477	13.4985	0.0002	0.226330	2.485
KIDS6	1	1.8693	0.1911	95.7177	0.0001	0.485542	6.484

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About the Authors

HANS P. JOHNSON

Hans P. Johnson is a research fellow at the Public Policy Institute of California. In addition to adult literacy, his research interests include international and domestic migration, population estimates and projections, and state and local demography. He was previously the senior demographer at the California Research Bureau, where he conducted research for the State Legislature and Governor's Office on population issues, authoring several publications on migration. He has also worked as a demographer at the California Department of Finance, specializing in population projections. He holds a Ph.D. in demography from the University of California, Berkeley.

SONYA M. TAFOYA

Sonya M. Tafoya is a research associate at the Public Policy Institute of California. Her research interests include immigration and California demography. Before joining PPIC, she worked as a biology lecturer and postgraduate researcher at the University of California, Davis. While working as a researcher at Davis, she evaluated the effectiveness of an undergraduate science enrichment program. She holds a B.S. in biology and an M.S. in plant biology from the University of California, Davis.