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The Mental Health Benefits of Work: Do They Apply to Welfare Mothers with a Drinking Problem?

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Abstract

A longstanding tradition of employment-related research has shown mental health advantages of employment. However, given welfare reform mandates for employment and a welfare population with disproportionately high rates of depression and co-occurring substance abuse problems, it is unclear if women on welfare reap this advantage. This analysis draws on 4 years of data from the Welfare Client Longitudinal Study to examine the mental health benefits of employment among women on welfare (n=419) and to assess whether drinking problems alter the relationship. Repeated measures analyses suggest that women who enter welfare with a drinking problem may not experience the same decline in depression symptoms following employment. Improving the connections between welfare and treatment services for women with alcohol problems may, however, have important implications for their mental health.

Keywords

mental health; depression; welfare; employment; alcohol problems; problem drinking

Studies of the U.S. labor force provide broad support for the beneficial mental health effects of employment on depression. Among other things, the literature tells us that the 30-year trend towards increased labor force participation among women has been met with rising rates of mental well-being, particularly among female professionals for whom jobs tend to be high quality, well paid and make room for family demands.^{1–5} What researchers have largely failed to address is whether these benefits apply equally to women in poverty for whom jobs tend to be lower paid, poorer in quality and less stable over time.

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There are two primary reasons why the effects of paid employment on the depression status of women in poverty are of special interest. First, welfare reform now makes the fulfillment of work requirements a mandatory condition for receiving federal aid under the Temporary Aid to Needy Families (TANF) program. Mandatory work requirements have, in part, been justified by the notion that holding down a job can increase the self-esteem and mental well-being of welfare mothers by destigmatizing their status and promoting a sense of self-sufficiency.⁶ In the 12 years since the passage of welfare reform, caseloads have declined by more than half nationally and many welfare recipients have found employment.⁷ Still, very little is known about the mental health impact of publicly mandating employment for welfare mothers.

The second reason for the importance of these issues stems from recent epidemiological research on women in poverty. Studies find that, to a disproportionate degree, mental health problems among poor women and welfare mothers—particularly depression—co-occur with other problems such as substance abuse, exposure to violence, and physical and learning disabilities.^{8–11} Research is unclear as to whether this “piling on” of problems alters the relationship between paid employment and depression. It is plausible that, when the demands of work unfold in the lives of women disabled by multiple co-occurring conditions, it becomes more difficult to reap the potential mental health benefits of work.

This study seeks to better understand the relationships between employment, depression, and alcohol problems among women on welfare. Drawing on 4 years of panel data from the community-based Welfare Client Longitudinal Study (WCLS), repeated measures analyses are utilized to examine how employment impacts depression symptoms over time and whether the relationship varies by the presence of a drinking problem. The WCLS is an in-depth study of the impact of welfare reform on low-income substance abusers in a large California county. It has the advantages of providing 4 annual waves of data on a representative sample of poor women where substance abusers were intentionally over-sampled and rates of attrition are low. These data thus provide for a more detailed view of employment dynamics among low-income women and their impact on depression than has heretofore been possible.

BACKGROUND

The Mental Health Benefits of Work

A substantial body of empirical research documents the beneficial relationship between employment and mental health.^{1–5, 12, 13} Studies particularly show strong associations between paid employment and reduced levels of depression, greater life satisfaction and higher self-esteem (see: Aneshensel, et al¹⁴). Graetz found that the case rate for psychological distress was 23 percent lower among those who gained employment relative to their peers who remained unemployed.¹⁵ Others have shown that returns to employment can reverse the negative effects of prior unemployment, restoring the level of mental well-being that existed prior to job loss.^{16–19} In a southeastern Michigan community, Kessler and colleagues found that significant elevations in depression symptoms among the unemployed were largely reversed by re-employment.²⁰

While the literature provides ample evidence for the beneficial impacts of employment, it has been limited by traditional conceptions of the two-parent, nuclear family, and by a tendency among researchers to confine samples to the middle class. While adjudicating between the demands of family and work obligations can be a strain for all working women with children, the ability to negotiate these demands is very likely to differ by socio-economic status.²¹ Professional and middle class women are more likely to obtain voluntary part-time employment that helps them to balance family obligations. Women living in poverty and on welfare are disproportionately more likely to dwell in single-parent households where the demands of family and work compete to a fundamentally greater degree than they do in two-parent, middle

class households.²² It has also been shown that the combined burden of work and family roles can be a source of role strain for working women, particularly poor women, leaving them prone to depression.^{23, 24}

Work, Depression and Alcohol Problems in Welfare Mothers

For women in poverty, there are unique relationships among all three of the key variables of interest in this analysis: employment, depression, and problem drinking. Research on whether employment benefits mental health in low-income and welfare populations is scant and, on the whole, has produced mixed findings.^{25–28} In a 1991 study that followed a cohort of largely male General Assistance (GA) recipients in Michigan as they lost welfare benefits, steady work was positively associated with psychological well-being.²⁶ However, Baker and North found that employment failed to produce mental health benefits for poor women in both single- and two-parent families.²⁸ Others report declines in psychological distress among married mothers, but no similar mental health benefits among single mothers.²⁷ In general, the research leads to the conclusion that the specifics of job quality, childcare and family demands are important factors conditioning the relationship between employment and mental health.^{3, 23, 29–33}

The literature also underscores the importance of accounting for the unique employment opportunities open to welfare mothers. Welfare mothers are more likely to find work in inadequate, low-wage, part-time jobs,²¹ and it has been shown that these aspects of employment can lead to higher rates of psychological distress and depression.^{34, 35} Coupled with the excess demands of single parenting, the obligation to meet welfare work requirements could create a unique context of stressors that makes work less fulfilling to the individual. This is the basis for our hypothesis that welfare mothers will derive few depression benefits from employment outside the home.

With respect to depression, numerous studies document disproportionately high rates among women living in poverty,^{36–39} and even higher rates among those who are welfare mothers.^{40–43} The *Women's Employment Study* (WES), a carefully staged panel study of welfare mothers in an urban Michigan county, reported initial rates of depression over 25 percent.^{44–46} National estimates are roughly comparable.^{47–49} Welfare reform research further shows that mental health problems have consequences for employment. Namely, they diminish the likelihood of successfully moving from welfare to work.^{45, 50–53} The focus here, however, has been almost exclusively on depression as a barrier to employment rather than on how becoming employed could improve a welfare mother's symptoms of depression.

Finally, it is also known that those receiving welfare differ from other populations with respect to the problems that co-occur with depression. The broader epidemiological literature draws consistent links between depression and alcohol problems,^{54–59} and welfare research shows that their co-occurrence is disproportionately high, and growing, in populations on public aid.^{8, 46, 60–62} In the WES, rates of alcohol dependence were 5-fold higher among welfare mothers with depression compared to those not depressed.⁴⁴ Prior work in California shows that 2 out of 10 welfare recipients report problems with both substance abuse and depression, and that while one of these problems on its own may not impact employability, two or more co-occurring problems significantly impact the capacity to work.^{8, 63, 64} Thus, prior research finds clear associations between depression, alcohol problems and work experiences among welfare mothers, but in contrast to the present study, most studies have examined employment as an outcome rather than as an independent variable.

Summary and Hypotheses

In summary, a longstanding tradition of employment-related research has generally shown mental health advantages for adults employed outside the home. This literature, however,

focuses primarily on men and middle class women, and there are good reasons to expect the relationships to differ for women in poverty, and particularly, for those reliant on public aid. Prior research tells us that the context of work and family life for welfare mothers fundamentally differs from that of their counterparts in the middle class: women on aid are disproportionately single mothers with limited access to higher-quality, stable jobs. These observations lead to the following hypothesis:

H1: Among welfare mothers, employment will not be associated with improved depression over time.

Further, epidemiological research documents disproportionately high rates of co-occurring symptoms of depression and substance abuse in the welfare population, and suggests that the co-occurrence of such “barriers to work” is a significant factor in failures to successfully transition from welfare to work. These established connections between depression problems, substance abuse and employment lead to a second hypothesis:

H2. Among welfare mothers, the presence of a drinking problem will alter the relationship between employment and depression over time.

METHODS

Sample

The WCLS began by drawing a representative sample of welfare applicants from a large California county consisting of applicants to the federal TANF program as well as applicants to the locally-funded General Assistance (GA) program. At baseline in 2001, adult welfare applicants were systematically sampled, taking every “*n-th*” welfare applicant, from the daily intake rosters at all seven of the study site’s welfare offices. In-person interviews with selected participants took place either before or after the welfare intake interview and always preceded the final determination of acceptance onto aid. Welfare department records of study participants who provided informed consent were examined in order to document which applicants received aid and which did not. A sample of 1786 applicants were eligible for the survey and 1510 were successfully interviewed, yielding a response rate of 85 percent.

Aid recipients in the baseline survey ($n=955$) provided the sampling frame for the longitudinal portion of the WCLS. Due to the expense of following low-income populations, we selected a random sample of 718 study participants, including an over-sample of recipients with alcohol and drug problems, to track and re-interview on a yearly basis over a 4 year observation period. Criteria for the over-sampling of substance abusers included the presence of a drinking problem or heavy drug use at the baseline interview. (These measures are detailed below.) Sampling weights are used to adjust for these design effects. Through intensive fieldwork tracking efforts, the WCLS limited loss to follow-up and maintained a response rate of approximately 82 percent of baseline throughout the first three years of follow-up. These intensive follow-up tracking efforts provide for a less biased sample.⁶⁵ The overall refusal rate was below 2 percent, the mortality rate was 2 percent, and there is no evidence of marginalization or biased attrition on measures of depression, problem drinking or employment used in this analysis.^{65, 66} For purposes of this analysis among welfare mothers, the sample selected includes only women who received federal TANF benefits and who were selected for longitudinal follow-up ($n=419$). TANF recipients are exclusively mothers with dependent children who, under welfare reform, are required to seek work as a condition of receiving aid.

Fieldwork Procedures

Structured survey interviews were administered in English and Spanish by professional survey interviewers with comparable survey instruments at baseline and each wave of follow-up. At

baseline, the hour-long interviews were conducted face-to-face in private places within welfare offices or in adjacent private locations. Special provisions were made to clearly distinguish interviewers from welfare department staff, to assure complete privacy during interviews, and to clarify that participation in the study was completely voluntary, had no bearing on the receipt of aid and that individuals could withdraw from the study at any time. All study participants provided written informed consent and are protected by a federal Certificate of Confidentiality.

At each wave of annual follow-up, participants were interviewed by telephone if possible, but those without phones or who could not otherwise be reached were interviewed in-person in a variety of private locations, including their homes, jails, prisons, treatment facilities, shelters, and even parks in cases where study participants were homeless. Study participants who were relocated after having missed a follow-up interview, less than 5 percent of the sample, were administered an expanded interview to obtain key missing data retrospectively. All participants received a \$40 honorarium upon completion of the follow-up interviews and all study protocols were approved by the Public Health Institute's Institutional Review Board.

Measures

The dependent variable of interest in this analysis is current depression status which was evaluated with the Brief Symptom Inventory (BSI).⁶⁷ The BSI is a standard survey instrument for mental health screening and assessment consisting of 53-items profiling nine dimensions of psychopathology, including symptoms of depression. The reliability and validity of the depression subscale have been found to be very good.^{68–70} It should be noted however that this measure of depression does not provide for a clinical diagnosis of depression, but rather a measure of current symptoms during the previous week. While symptom measures are widely used^{71–75} as they reflect a representative range of indicators for clinical illness and are associated with considerable limitations in functioning,^{76–78} the results from this study should be interpreted accordingly.

In the assessment of depression symptoms, study participants were asked how often they experienced the following feelings during the past week: 1) Thoughts of ending your life; 2) Feeling lonely; 3) Feeling blue; 4) Feeling no interest in things; 5) Feeling hopeless about the future; and, 6) Feelings of worthlessness. Responses to the 5-point Likert items ranged from not at all to extremely. Scaling of depression symptoms was guided by Derogatis' standard protocol for case definitions. A "case" was defined following the recognized cut point protocol for depression (t-score in the upper 10th percentile) as described by Derogatis, 1992.⁶⁷ A respondent was therefore classified with symptoms of depression if she was assessed as being above the cut point of the depression score range.

The independent variable of interest is current employment status. The WCLS collected information from study participants surrounding their current work circumstances. In this analysis, current employment status was dichotomized into employed, including both full- and part-time workers, and unemployed.

The moderating variable of interest in this analysis is problem drinking status. WCLS study participants were asked a series of detailed questions surrounding their alcohol use during the previous 12 months. A participant was classified as a problem drinker if she satisfied two of the following three criteria during the year prior to the interview: (1) consumption of five or more drinks of beer, wine, or spirits at one sitting on a monthly basis or more often; (2) at least one of five alcohol dependence symptoms; and (3) at least one of five alcohol-related social consequences. This measure of problem drinking has been widely utilized in prior epidemiological studies.^{79–82}

Potential confounders include a range of factors found in previous research to be associated with both depression and employment, such as baseline measures of age, race/ethnicity, education, family size, and family support.^{3, 33, 44, 83–86} In addition to these background characteristics, heavy drug use may also operate as a confounder. Previous studies have shown that heavy drug use is associated not only with employment but with depression as well.^{87–91} WCLS study participants were asked a series of questions about their use of unprescribed drugs during the previous 12 months. For purposes of this analysis, a participant was classified as a heavy drug user if she used at least one of the following substances on a weekly basis or more often during the year prior to interview: cocaine or crack, amphetamines or crank, sedatives, heroin, other opiates, marijuana or hashish, and psychedelics.⁷⁹

Data Analysis

Drawing on data from TANF mothers only, this analysis utilizes 4 annual waves of concatenated data collected under the auspices of the WCLS. We begin with simple assessments of the rates of employment and depression among welfare mothers who entered public aid at baseline with and without a drinking problem. Pearson chi-square tests are used to assess the statistical significance of changes in employment and depression over the 4-year period of observation.

To further evaluate the relationship between employment and depression, a series of generalized estimating equation (GEE) models are fit utilizing repeated measures from the 4 waves of data. In preparation for this analysis, the data were “stacked” for each individual by survey year, producing a data set of “person-years”. All GEE models are performed with the software program STATA and are of the general form:

$$\text{Logit}[P(Y_{ij}=1|x_{1ij}, x_{2ij}, x_{3ij}, x_{4ij})]=\beta_0+\beta_1 X_{1ij}+\beta_2 X_{2ij}+\beta_3 X_{3ij}+\dots+\beta_z X_{4ij}$$

where X_{1ij} : high school education (1 = yes, 0 = no)

X_{2ij} : 3 or more children (1 = yes, 0 = no)

X_{3ij} : family support (1 = yes, 0 = no)

X_{zij} : currently employed (1 = yes, 0 = no)

Y_{ij} : depression status (1 = yes, 0 = no)

Robust model estimates are presented using a compound symmetry structure that assumes correlations between the observations. These estimates are less sensitive to correlations between the repeated observations and are thus less biased than those derived from other regression approaches.

One of the clear benefits of GEE modeling is its capacity to account for the complex nature of changes in relationships among variables over time. For purposes of this analysis, the nature of change is captured by models that specify both the *cross-sectional effects*—that is, changes occurring across all individuals in the study—and *longitudinal change effects* that occur within individuals over time. This type of analysis allows for the assessment of whether the influence of employment across individuals varies by baseline problem drinking status, while also controlling for individual changes in problem drinking across the study period. These effects are disentangled sequentially. The first two sets of results (presented in Tables 1 and 2) collapse cross-sectional and longitudinal effects into a single, average effect of employment on depression over time. Thus, in Table 1, the average effect of employment on depression symptoms is compared for women with and without a baseline drinking problem in separate

models. Table 2 presents the average interaction effects of current employment and problem drinking on depression across the 4 time points. The final model (in Table 3) disentangles the cross-sectional from the longitudinal effects by assessing the interaction effect of current employment and baseline problem drinking while accounting for changes in problem drinking within individuals, across time.

RESULTS

Rates of Employment and Depression among Problem Drinkers

The analysis begins with an investigation of rates of depression and employment over time for welfare mothers who entered the study at baseline with a drinking problem compared to those with a drinking problem. As shown in Figure 1, differences in employment and depression symptoms among women with and without problem drinking proved significant. This provided initial support for the possibility that the effects of employment on depression may differ for welfare mothers by drinking problem status.

As Figure 1 illustrates, among mothers without a drinking problem, rates of depression decreased significantly over the course of the 4-year observation period, with the substantial decline (from 20 to 15 percent) occurring at wave 3, a full 2 years into the study. In contrast, among welfare mothers with a drinking problem at baseline, the proportion of women who met criteria for depression symptoms was higher at baseline: over one-third (36 percent) of women reported symptoms of depression compared to 22 percent of those without a drinking problem. Over sequential waves of the study, the rate of depression for problem drinkers fluctuated between 27 and 50 percent without any consistent pattern of statistically significant change.

The right-hand portion of Figure 1 shows that among welfare mothers without a drinking problem at baseline, rates of paid employment outside the home increased steadily over time. At baseline, 12 percent of non-problem drinkers were currently employed, but by wave 4, the proportion had increased four-fold to 48 percent. Among women with a drinking problem at baseline, the rate of employment also increased significantly over time. However, the overall proportions of women employed stayed consistently lower throughout the observation period than among those with a drinking problem. At baseline, only 6 percent of women with a drinking problem were currently employed. Much of the increase in employment took place during the first year of follow-up, as 28 percent of women became employed by wave 2. By the end of the study, the rate of employment rose to 36 percent among the women who had begun the study with a drinking problem.

Effects of Employment and Problem Drinking on Depression

The multivariate portion of this study allows for a more in-depth investigation of the potential for alcohol problems to moderate the relationship between employment and depression among women on public aid. Through a repeated measures analysis using generalized estimating equations (GEE), the correlation between observations over time can be accounted for, and a better understanding of the nature of change can be attained by disentangling the variation across individuals at baseline (i.e., cross-sectional effects) from variation within individuals over the course of time (i.e., longitudinal effects).

Table 1 presents the results from GEE models examining the effect of current employment on depression, comparing models for women with and without a drinking problem at baseline or welfare entry. Both models account for demographic characteristics and time (i.e., study wave). The results in Table 1, Model 1, indicate that, among women who entered welfare without a drinking problem, employment is associated with improvements in depression over time. On average, the odds of depression among welfare mothers without a drinking problem who are

currently employed are 33 percent lower compared to welfare mothers who are unemployed. With respect to demographic characteristics, African-American women, and those with family support, also gain a depression advantage compared to others. Meanwhile, women with 3 or more children and those who use illicit drugs heavily are at a mental health disadvantage. While a modest reduction in the odds of depression over time is present, as evidenced by the study wave term in the model, the effect does not meet criteria for statistical significance.

Model 2 in Table 1 presents similar results for women who met criteria for problem drinking at baseline. Here, there is no evidence of a beneficial impact of employment on depression as there was for women without a drinking problem. Employed women with a drinking problem at baseline have an odds of depression similar to unemployed women, and there is no indication of a reduction in the odds of depression over time. Only family support is statistically associated with a reduced odds of depression for women with a drinking problem. Heavy drug use, however, is modestly associated with an increased odds of depression.

In Table 2, we further examine the question of whether or not problem drinking moderates the relationship between employment and depression. This analysis employs a repeated measure of problem drinking rather than a baseline measure, as in Table 1. The model assesses whether the relationship between employment and depression, on average, varies over the course of the 4-year observation period by problem drinking status. Women without a drinking problem experience a depression benefit from employment ($aOR=.75$; $p=.04$) while women with a drinking problem do not reap this same benefit ($aOR=1.13$; $p=.67$). However, there is no differential effect of employment on depression over time for problem drinkers versus others. This is evidenced by the statistically insignificant model interaction term ($p=.78$, results not shown).

The analysis last turns to disentangling the baseline cross-sectional effects of problem drinking across individuals from the longitudinal changes in problem drinking within individuals. These effects were collapsed together in the results presented in Table 2. In Table 3, the moderating effect of baseline problem drinking status is examined while controlling for changes in problem drinking status over the 4-year study period. Here, we see that women who *acquired* a drinking problem during the 4-year observation period are at increased risk of depression compared to those with no changes in drinking. Moreover, among women without a drinking problem at baseline, the odds of depression are 34 percent less among working women compared to unemployed women ($aOR=.66$; $p=.01$) whereas among women with a drinking problem at baseline, there is no significant difference in the odds of depression among working women compared to unemployed women ($aOR=1.16$; $p=.60$). The model interaction term between baseline problem drinking and employment is not statistically significant at the .05 level (with $p<.08$, results not shown), although the trend in the data is toward a differential effect.

DISCUSSION

This analysis has examined the mental health benefits of work for women in poverty within a welfare reform policy context that mandates their employment, in part, on the grounds that work can improve self-esteem and mental well-being. Welfare reform policy is unfolding within a population with disproportionately high rates of depression and co-occurring substance abuse problems, as well as family and job quality factors that could complicate the relationship between employment and depression outcomes. This study examined whether the previously documented effects of work on depression hold true for welfare mothers, and whether the presence of an alcohol problem influences the likelihood that a woman can obtain a mental health advantage from work.

A notable finding is that many women on welfare do appear to experience an improvement in depression following paid employment outside the home. In bivariate comparisons, rates of employment significantly increased over the course of the study period among women on welfare both with and without a drinking problem. At the outset, we hypothesized that welfare mothers would generally fail to experience the depression benefits of employment. The results from this study suggest, however, that for some women, it is possible that the more complex work and family circumstances facing welfare mothers do not detract from the robust positive effects of employment on mental health.

However, our analysis also showed that it was only among those women who entered welfare without a drinking problem that symptoms of depression declined concomitantly with the increased propensity of work. In other words, only women who entered welfare without a drinking problem experienced reductions in symptoms of depression following employment. Those with a drinking problem at welfare entry were not likely to reap this same benefit.

The analysis further shows that the interrelationships among employment, depression, and alcohol problems differ in terms of cross-sectional and longitudinal effects. Only when the longitudinal changes in problem drinking status within individuals were accounted for did we find some suggestion that problem drinking at welfare entry could influence whether employment among welfare mothers precedes improvements in depression. The results of this analysis are far from conclusive, given the limitations of the study discussed below, and marginal statistical significance of this result. But, clearly, a model that collapses both cross-sectional and longitudinal effects into a single effect could lead to an incomplete understanding of this complex relationship as it evolves over time.

Limitations

The results of this study should be considered in light of several methodological limitations. While the main objective of this study was to examine whether mandated employment is beneficial or detrimental to the mental health of single mothers on welfare, regardless of their depression status at welfare entry, issues of selection and causation mechanisms surrounding how employment is associated with depression are of concern. Given the purpose of the study, the longitudinal analyses did not directly address the temporal relationship between employment and depression. It is therefore important that the results be interpreted as associations over time rather than causally.

A second limitation pertains to the potential for reporting bias, particularly among women who may not disclose that they experience alcohol problems to avoid being reported to Child Protective Services (CPS) and risk losing their children.⁹² As drinking problems are likely to be a strong confounder of the relationship between employment and depression, the differential misclassification of drinking problems could lead to spurious results. While the survey approach utilized in the WCLS does not allow for a more objective source for obtaining alcohol consumption measures, the study instrument attempts to limit this form of response bias by obtaining sensitive data through an array of questions and from a variety of angles. Further attempts to limit participant response bias were made through interviewer assurances of confidentiality as well as protection under a federal Certificate of Confidentiality.

Another potential limitation is that the WCLS sample is confined to TANF recipients in a single county, which may limit the generalizability of results. Special care was taken to select a large study site – a county of over 1,000,000 people – that captured the full demographic diversity of the U.S., and where welfare policies were fairly typical of the U.S. welfare system. Furthermore, rates of mental health problems and employment experiences in this sample are roughly similar to other samples of comparable welfare populations, both at the national and local levels (for comparisons, see: Schmidt and McCarty^{50, 93}). One advantage, however, of

confining this study to a single county was that labor market conditions were likely to be similar across participants.

IMPLICATIONS FOR BEHAVIORAL HEALTH

The findings from this study suggest that women who enter welfare with a drinking problem may not reap the advantages that employment can have on reducing symptoms of depression. The results also reveal that the depression experienced by problem drinkers who obtain employment is not likely to deteriorate over time compared to problem drinkers who remain unemployed. Our findings generally speak to the potential benefits of work, even for poor women on public aid. But at the same time, they point to the fragile nature of this relationship which can be attenuated by the presence of added problems such as the presence of a drinking problem.

Of course, it can be argued that the goal of welfare reform is to promote economic self-sufficiency, not to improve the mental health of women on aid. But the employment goals of welfare reform could be undercut if, for some women, alcohol problems and depression conspire against employment stability. While it may be possible for some women to overcome the challenges of poverty, unemployment and depression, the presence of an alcohol problem may lower the odds of this possibility. This observation has broad implications for welfare policy by underscoring the reality that welfare mothers experience multiple challenges that may make it difficult to take advantage of the work incentives inherent in welfare reform and move off aid within federal time limits.

Most welfare programs have adopted a “work first” model that promotes the use of job-search programs for the majority of recipients regardless of specific barriers to work.⁷ The findings from this study suggest, however, that the focus of welfare-to-work programs could fail for an important segment of the caseload on aid. While assisting recipients with obtaining work is a principal objective of the current welfare-to-work program, providing treatment services to women with alcohol problems may allow a woman to *retain* her job, which in the end may be just as important as obtaining employment. Although many welfare departments have established memorandums of understanding with mental health and substance abuse treatment providers, research suggests that most women are not successfully treated within the context of welfare reform.^{62, 92, 94} Improving the linkages between treatment and welfare services may have important implications for the mental health of women on welfare, as well as their subsequent ability to maintain employment.

In order to better understand the findings from this study, future research should more closely examine the stability and nature of employment that women on welfare obtain. As noted at the outset, particularly for lesser educated women, such as many women on welfare, job instability may play a role in on-going mental health problems. For women with alcohol problems, it may be important to determine whether poor quality employment makes work less rewarding or whether the dynamics inherent in alcohol relapse do more to account for their reduced odds of reaping the mental health benefits of work.

References

1. Gore S, Mangione TW. Social Roles, Sex Roles and Psychological Distress: Additive and Interactive Models of Sex Differences. *Journal of Health and Social Behavior* 1983;24(4):300–312. [PubMed: 6668410]
2. Kessler RC, McRae J, James A. The Effect of Wives' Employment on the Mental Health of Married Men and Women. *American Sociological Review* 1982;47(2):216–227. [PubMed: 7091930]

3. Matthews S, Power C. Socio-economic gradients in psychological distress: a focus on women, social roles and work-home characteristics. *Social Science & Medicine* 2002;54:799–810. [PubMed: 11999494]
4. Ross CE, Mirowsky J. Does Employment Affect Health? *Journal of Health and Social Behavior* 1995;36:230–243. [PubMed: 7594356]
5. Dooley D, Fielding J, Levi L. Health and Unemployment. *Annual Review of Public Health* 1996;17:449–465.
6. DeParle, J. *American Dream: Three Women, Ten Kids, and a Nation's Drive to End Welfare*. New York: Penguin Group; 2004.
7. Blank, RM.; Haskins, R. *The New World of Welfare*. Washington, DC: Brookings Institution Press; 2001.
8. Schmidt L, Zabkiewicz D, Henderson S, Wiley J, Jacobs L. On the Declining Health and Well Being of the Welfare Population: Emerging Dilemmas in Serving the Poor. *Journal of Health and Social Policy*. 2007 (in press).
9. Speigman, R.; Dasinger, LK.; Norris, JC. *Alameda County CalWORKS Needs Assessment and Outcomes Study: The Prevalence and Impact of Physical, Mental, and Behavioral Health Barriers on Work and Welfare Outcomes over 27 Months*. Berkeley: Public Health Institute; Jun 23. 2003 Report #6
10. Zedlewski, S. *Work and Barriers to Work among Welfare Recipients in 2002*. Washington, DC: The Urban Institute; 2003.
11. Moffitt R, Cherlin A. *Disadvantage among Families Remaining on Welfare: Joint Center for Poverty Research*. February;2002
12. Kessler R, House J, Turner B. Unemployment and Health in a Community Sample. *Journal of Health and Social Behavior* 1987;28(1):51–59. [PubMed: 3571906]
13. Warr P, Jackson P. Factors influencing the psychological impact of prolonged unemployment and of re-employment. *Psychological Medicine* 1985;15:795–807. [PubMed: 4080883]
14. Aneshensel CS, Frerichs RR, Clark VA. Family Roles and Sex Differences in Depression. *Journal of Health and Social Behavior* 1981;22:379–393. [PubMed: 7320475]
15. Graetz B. Health Consequences of Employment and Unemployment: Longitudinal Evidence For Young Men and Women. *Social Science & Medicine* 1993;36(6):715–724. [PubMed: 8480216]
16. Claussen B, Bjorndal A, Hjort PF. Health and Re-Employment in a Two Year Follow Up of Long Term Unemployed. *Journal of Epidemiology and Community Health* 1993;47:14–18. [PubMed: 8436885]
17. Claussen B. Health and re-employment in a five-year follow-up of long-term unemployed. *Scandinavian Journal of Public Health* 1999;2:94–100. [PubMed: 10421716]
18. Kessler R, Turner B, House J. Unemployment, Reemployment, and Emotional Functioning in a Community Sample. *American Sociological Review* 1989;54(4):648–657.
19. Wanberg C. Antecedents and Outcomes of Coping Behaviors Among Unemployed and Reemployed Individuals. *Journal of Applied Psychology* 1997;82(5):731–744. [PubMed: 9337607]
20. Kessler RC, Turner JB, House JS. Effects of Unemployment on Health in a Community Survey: Main, Modifying, and Mediating Effects. *Journal of Social Issues* 1988;44(4):69–85.
21. Edin, K.; Lein, L. *Making Ends Meet: How Single Mother Survive Welfare and Low-Wage Work*. New York, NY: Russell Sage Foundation; 1997.
22. Wilson, WJ. *When Work Disappears*. New York: Alfred A. Knopf; 1996.
23. Lennon MC, Rosenfield S. Women and Mental Health: The Interaction of Job and Family Conditions. *Journal of Health and Social Behavior* 1992;33:316–327. [PubMed: 1464717]
24. Cleary PD, Mechanic D. Sex Differences in Psychological Distress Among Married People. *Journal of Health and Social Behavior* 1983;24(2):111–121. [PubMed: 6886366]
25. Gyamfi P, Brooks-Gunn J, Jackson A. Associations Between Employment and Financial and Parental Stress in Low-income Single Black Mothers. *Women & Health* 2001;32(1–2):119–135.
26. Danziger SK, Carlson MJ, Henly JR. Post-welfare employment and psychological well-being. *Women & Health* 2001;32(1–2):47–78.

27. Ali J, Avison WR. Employment Transitions and Psychological Distress: The Contrasting Experiences of Single and Married Mothers. *Journal of Health and Social Behavior* 1997;38(4):345–362. [PubMed: 9425779]
28. Baker D, North K, Team AS. Does employment improve the health of lone mothers? *Social Science & Medicine* 1999;49:121–131. [PubMed: 10414845]
29. Artazcoz L, Borrell C, Benach J, Cortes I, Rohlfs I. Women, family demands and health: the importance of employment status and socio-economic position. *Social Science & Medicine* 2004;59:263–274. [PubMed: 15110418]
30. Artazcoz L, Borrell C, Benach J. Gender inequalities in health among workers: the relation with family demands. *Journal of Epidemiology and Community Health* 2001;55:639–647. [PubMed: 11511642]
31. Kandel DB, Davies M, Raveis VH. The Stressfulness of Daily Social Roles for Women: Marital, Occupational and Household Roles. *Journal of Health and Social Behavior* 1985;26:64–78. [PubMed: 3998436]
32. Ross C, Mirowsky J. Child Care and Emotional Adjustment to Wives' Employment. *Journal of Health and Social Behavior* 1988;29:127–138. [PubMed: 3243971]
33. Ross CE, Mirowsky J, Goldsteen K. The Impact of the Family on Health: The Decade in Review. *Journal of Marriage and the Family* 1990;52(4):1059–1078.
34. Marchand A, Demers A, Durand P, Simard M. Occupational variations in drinking and psychological distress: A multilevel analysis. *Work* 2003;21:153–163. [PubMed: 14501093]
35. Marchand A, Demers A, Durand P, Simard M. The Moderating Effect of Alcohol Intake on the Relationship between Work Strains and Psychological Distress. *Journal of Studies on Alcohol* 2003;64:419–427. [PubMed: 12817833]
36. Brown, GW.; Harris, T. *Social Origins of Depression: A Study of Psychiatric Disorder in Women*. New York: The Free Press; 1978.
37. Lennon, MC.; Blome, J.; English, K. *Depression and Low-Income Women: Challenges for TANF and Welfare-to-Work Policies and Programs*. National Center for Children in Poverty, Mailman School of Public Health, Columbia University; Mar. 2001
38. Riolo SA, Nguyen TA, Greden JF, King CA. Prevalence of Depression by Race/Ethnicity: Findings From the National Health and Nutrition Examination Survey III. *American Journal of Public Health* 2005;95(6):998–1000. [PubMed: 15914823]
39. Bassuk EL, Buckner JC, Perloff JN, Bassuk SS. Prevalence of Mental Health and Substance Use Disorders Among Homeless and Low-Income Housed Mothers. *American Journal of Psychiatry* 1998;155(11):1561–1564. [PubMed: 9812118]
40. Callahan, SR. *Understanding Health-Status Barriers That Hinder the Transition From Welfare to Work*. Washington, DC: National Governors' Association; 1999.
41. Rosen D, Spencer MS, Tolman R, Williams D, Jackson JS. Psychiatric Disorders and Substance Dependence Among Unmarried Low-Income Mothers. *Health and Social Work* 2003;28(2):157–165. [PubMed: 12774537]
42. Zaslow, MJ.; Hair, EC.; Dion, MR.; Ahluwalia, SK.; Sargent, J. Maternal Depressive Symptoms and Low Literacy as Potential Barriers to Employment in a Sample of Families Receiving Welfare: Are There Two-Generational Implications?. In: Lennon, MC., editor. *Welfare, Work, and Well-Being*. New York: The Haworth Medical Press; 2001. p. 211–251.
43. CalWORKS Project. *Mental Health, Domestic Violence and Substance Abuse: Need for and Use of Services Among Adult Female TANF Participants*. Sacramento: California Institute for Mental Health; Apr. 2002 p. 1
44. Siefert K, Bowman PJ, Heflin CM, Danziger S, Williams DR. Social and environmental predictors of maternal depression in current and recent welfare recipients. *American Journal of Orthopsychiatry* 2000;70(4):510–522. [PubMed: 11086529]
45. Danziger S, Kalil A, Anderson NJ. Human Capital, Health and Mental Health of Welfare Recipients: Co-occurrence and Correlates. *Journal of Social Issues* 2000;54(4):637–656.
46. Danziger, S.; Corcoran, M.; Danziger, SH., et al. Barriers to the Employment of Welfare Recipients. In: Cherry, R.; Rodgers, WM., III, editors. *Prosperity for All? The Economic Boom and African Americans*. New York: Russell Sage Foundation; 2000. p. 245–278.

47. Department of Health and Human Services. Substance Use and Mental Health Characteristics by Employment Status. Rockville, MD: Department of Human and Health Services - Substance Abuse and Mental Health Services Administration, Office of Applied Studies; Jun. 1999
48. Jayakody R, Danziger S, Pollack H. Welfare Reform, Substance Use and Mental Health. *Journal of Health Politics, Policy and Law*. 2000 August;
49. Jayakody, R.; Stauffer, D. Mental Health Problems Among Single Mothers: Implications for Work and Welfare Reform. Pennsylvania State University; 2000.
50. Schmidt L, McCarty D. Welfare Reform and the Changing Landscape of Substance Abuse Services for Low-Income Women. *Alcoholism: Clinical and Experimental Research* 2000;24(8):1298–1311.
51. Speigman, R.; Fujiwara, L.; Norris, J.; Green, RS. Alameda County CalWORKs Needs Assessment: A Look at Potential Health-Related Barriers to Self-Sufficiency. Berkeley, CA: Social Services Agency and Department of Behavioral Health Care Services, County of Alameda; Aug 30. 1999
52. Green, RS.; Fujiwara, L.; Norris, J.; Kappagoda, S.; Driscoll, A.; Speigman, R. Barriers to Working and Summaries of Baseline Status. Berkeley: Public Health Institute; Feb 10. 2000
53. Metsch LR, McCoy CB, Miller M, McAnany H, Pereyra M. Moving Substance-Abusing Women from Welfare to Work. *Journal of Public Health Policy* 1999;2(1):36–55. [PubMed: 10874397]
54. Rehm J, Room R, Graham K, Monteiro M, Gmel G, Sempos CT. The relationship of average volume of alcohol consumption and patterns of drinking to burden of disease: an overview. *Addiction* 2003;98:1209–1228. [PubMed: 12930209]
55. Kessler RC, Nelson CB, McGonagle KA, Edlund MJ, Frank RG, Leaf PJ. The Epidemiology Of Co-Occurring Addictive And Mental Disorders: Implications for Prevention and Service Utilization. *American Journal of Orthopsychiatry* January;1996 66(1):17–31. [PubMed: 8720638]
56. Grant BF, Stinson FS, Dawson DA, et al. Prevalence and Co-Occurrence of Substance Use Disorders and Independent Mood and Anxiety Disorders: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Alcohol Research & Health* 2006;29(2):107–120.
57. Caetano R. Alcohol Use and Depression Among U.S. Hispanics. *Addiction* 1987;82(11):1245.
58. Lipton RI. The Effect of Moderate Alcohol Use on the Relationship between Stress and Depression. *American Journal of Public Health* 1994;84(12):1913–1917. [PubMed: 7998629]
59. Lipton R. The relationship between alcohol, stress, and depression in Mexican Americans and non-Hispanic Whites. *Behavioral Medicine* 1997;23(3):101–112. [PubMed: 9397282]
60. Pavetti, LA.; Bloom, D. Sanctions and Time Limits: State Policies, Their Implementation and Outcomes for Families. Paper presented at: The New World of Welfare: Shaping a Post-TANF Agenda for Policy; Washington, D.C. Feb. 2001
61. Zedlewski, S.; Loprest, P. Will TANF Work for the Most Disadvantaged Families?. In: Blank, R.; Haskins, R., editors. *The New World of Welfare*. Washington, DC: Brookings Institution Press; 2001. p. 311-334.
62. CalWORKS Project Research. Alcohol & Other Drugs, Mental Health, and Domestic Violence Issues: Need, Incidence, and Services. Sacramento: California Institute for Mental Health; Feb. 2002
63. Zabkiewicz, D.; Schmidt, L. Patterns of Welfare Receipt: The Role of Substance Abuse and Depression. Paper presented at: American Public Health Association 129th Annual Meeting; Atlanta, GA. Oct. 2001
64. Zabkiewicz D, Schmidt LA. Behavioral Health Problems as Barriers to Work: Results From a 6-Year Panel Study of Welfare Recipients. *Journal of Behavioral Health Services & Research*. March;2007
65. Odierna, D. A School of Public Health Dissertation. University of California; Berkeley: 2006. Learning to See the Invisible: Marginalization, Attrition, and Health Disparities in a Study of Welfare and Substance Use; p. 211
66. Odierna DH, Schmidt LA. Lost and Found: On the Effects of Failure to Include Hard-to-Reach Respondents in Public Health Research. *American Journal of Public Health*. 2008 (in press).
67. Derogatis, LR. The Brief Symptom Inventory (BSI) Administration, Scoring & Procedures Manual - II. Clinical Psychometric Research, Inc; 1992.
68. Morlan KK, Tan S-Y. Comparison of the Brief Psychiatric Rating Scale and the Brief Symptom Inventory. *Journal of Clinical Psychology* 1998;54(7):885–894. [PubMed: 9811126]

69. Derogatis LR, Cleary P. Confirmation of the Dimensional Structure of the SCL-90: A Study in Construct Validation. *Journal of Clinical Psychology* 1977;33(4):981–989.
70. Broday S, Mason J. Internal Consistency of the Brief Symptom Inventory for Counseling-Center Clients. *Psychological Reports* 1991;68:94. [PubMed: 2034781]
71. Moffitt, RA.; Cherlin, AJ.; Burton, L.; King, M.; Roff, J. The Characteristics of Families Remaining on Welfare. Johns Hopkins University and Pennsylvania State University; Feb. 2002
72. Dooley D, Catalano R, Wilson G. Depression and Unemployment: Panel Findings from the Epidemiologic Catchment Area Study. *American Journal of Community Psychology* 1994;22(6): 745–765. [PubMed: 7639201]
73. Saarijarvi S, Salminen JK, Toikka TB. Alexithymia and depression: A 1-year follow-up study in outpatients with major depression. *Journal of Psychosomatic Research* 2001;51:729–733. [PubMed: 11750295]
74. Hale D, Cochran C. Age Differences in Self-Reported Symptoms of Psychological Distress. *Journal of Clinical Psychology* 1992;48(5):633–637. [PubMed: 1401148]
75. Acosta F, Nguyen L, Yamamoto J. Using the Brief Symptom Inventory to Profile Monolingual Spanish Speaking Psychiatric Outpatients. *Journal of Clinical Psychology* 1994;50(5):723–726. [PubMed: 7806649]
76. Ahluwalia, SK.; McGroder, SM.; Zaslow, MJ.; Hair, EC. Symptoms of Depression Among Welfare Recipients: A Concern for Two Generations. Washington, DC: Child Trends; Dec. 2001
77. Wells KB, Stewart A, Hays RD, et al. The Functioning and Well-being of Depressed Patients. *Journal of American Medical Association* 1989;262(7):914–919.
78. Broadhead WE, Blazer DG, George LK, Tse CK. Depression, Disability Days, and Days Lost From Work in a Prospective Epidemiologic Survey. *Journal of the American Medical Association* 1990;264 (19):2524–2528. [PubMed: 2146410]
79. Weisner C, Schmidt L. Alcohol and Drug Problems among Diverse Health and Social Service Populations. *American Journal of Public Health* 1993;83(6):824–829. [PubMed: 8498619]
80. Weisner C, Schmidt L. The community epidemiology laboratory: studying alcohol problems in community and agency-based populations. *Addiction* 1995;90:329–342. [PubMed: 7735018]
81. Clark, W.; Hilton, M., editors. Alcohol in America: Drinking Practices and Problems in a National Survey. New York, NY: State University of New York Press; 1991.
82. Wilsnack SC, Klassen AD, Schur BE, Wilsnack RW. Predicting Onset and Chronicity of Women's Problem Drinking: A Five-Year Longitudinal Analysis. *American Journal of Public Health* 1991;81 (3):305–318. [PubMed: 1994739]
83. Kessler RC, Berglund P, Demler O, et al. The Epidemiology of Major Depressive Disorder: Results from the National Comorbidity Survey Replications (NCS-R). *Journal of the American Medical Association* 2003;289(23):3095–3105. [PubMed: 12813115]
84. Guelzow MG, Bird GW, Koball EH. An exploratory path analysis of the stress process for dual-career men and women. *Journal of Marriage and the Family* 1991;53(1):151–164.
85. Allen TD, Herst DE, Bruck CS, Sutton M. Consequences Associated with Work-to-Family Conflict: A Review and Agenda for Future Research. *Journal of Occupational Health Psychology* 2000;5(2): 278–308. [PubMed: 10784291]
86. Jackson AP. Effects of concerns about child care among single, employed black mothers with preschool children. *American Journal of Community Psychology* 1997;25(5):657–673. [PubMed: 9485578]
87. Atkinson JS, Montoya ID, Trevino RA, Richard AJ. Labor Force Participation in a Sample of Substance Users. *American Journal of Drug and Alcohol Abuse* 2000;26(3):355–367. [PubMed: 10976662]
88. Montoya ID, Bell DC, Atkinson JS, Nagy CW, Whitsett DD. Mental health, drug use, and the transition from welfare to work. *The Journal of Behavioral Health Services & Research* May;2002 29(2):144–156.
89. Montoya ID, Brown VL. The Association Between EIC Receipt and Employment in a Sample of Drug Using and Non-Drug Using TANF Recipients. *The American Journal of Drug and Alcohol Abuse* 2006;32:189–201. [PubMed: 16595323]

90. Montoya ID, Atkinson JS, Struse HM. A Comparison of Psychosocial Barriers Among Welfare Recipients: Implications for Drug Treatment. *Substance Use & Misuse* 2001;36(6 7):771–788. [PubMed: 11697610]
91. Leshner AI. Drug Abuse and Mental Disorders: Comorbidity Is Reality. *NIDA Notes* 1999;14(4)
92. Henderson S, Dohan D, Schmidt L. Barriers to Identifying Substance Abuse in the Reformed Welfare System. *Social Service Review* 2006 June;:217–238.
93. Zivot, M.; Jacobs, L. Welfare Client Longitudinal Study: Demographic Changes in Our Study County, 1989–2001. Berkeley: Alcohol Research Group; Mar. 2004
94. Jacobs, L.; Schmidt, L.; Wiley, J. The Welfare System's New Response to Addiction and Mental Illness. San Francisco. Paper presented at The American Public Health Association 131st Annual Meeting; November 15–19 2003;

Figure 1. Rates of Depression and Employment Over Time Among Welfare Mothers With and Without a Baseline Drinking Problem

Note: Results are weighted for sampling design and non-response. Statistical tests compare changes across study years where * $p < .05$ and ** $p < .01$.

Unweighted Ns: Baseline/Wave 1: N=419; Wave 2: N=367; Wave 3: N=357; Wave 4: N=340.

Table 1
The Effects of Employment on Depression Over 4 Years: A Comparison of Welfare Mothers With and Without a Baseline Drinking Problem

Covariate	Model 1: No Drinking Problem at Baseline			Model 2: Drinking Problem at Baseline		
	aOR	95% C.I.	p-value	aOR	95% C.I.	p-value
Race/ethnicity (vs. White)						
Black	.57	(.36, .90)	.02	1.20	(.41, 3.49)	.74
Latina	.88	(.51, 1.51)	.63	1.04	(.30, 3.64)	.95
Other minority	.79	(.43, 1.43)	.44	1.03	(.27, 3.92)	.97
High school education	1.04	(.70, 1.55)	.85	1.45	(.56, 3.74)	.45
3+ children (vs. 0-2)	1.72	(1.27, 2.33)	.00	1.87	(.87, 4.04)	.11
Family support	.69	(.47, 1.01)	.06	.25	(.10, .64)	.00
Study wave	.89	(.79, 1.01)	.08	.86	(.68, 1.09)	.21
Currently employed	.67	(.51, .90)	.01	1.19	(.68, 2.08)	.54
Heavy drug use	2.04	(1.44, 2.91)	.00	1.76	(.94, 3.29)	.08
Model statistics:	Wald χ^2 , 9 df = 58.47; p ≤ 0.000			Wald χ^2 , 9 df = 22.91; p ≤ 0.006		

Note: Unit of analysis is the person-year.

Results are weighted for sampling design and non-response.

Table 2

The Moderating Effects of Average Problem Drinking on the Relationship between Employment and Depression

Covariate	aOR	95% C.I.	p-value
Race/ethnicity (vs. White)			
Black	.69	(.45, 1.05)	0.08
Latina	.92	(.56, 1.53)	0.75
Other minority	.89	(.52, 1.54)	0.69
High school education	1.10	(.76, 1.59)	0.62
3+ children (vs. 0–2)	1.72	(1.30, 2.29)	0.00
Family support	.58	(.40, .83)	0.00
Study wave	.90	(.81, 1.00)	0.05
Currently employed	.75	(.58, .98)	0.04
Heavy drug use	1.86	(1.36, 2.56)	0.00
Problem drinking and currently employed	1.13	(.65, 1.94)	0.67
Model statistics	Wald χ^2 , 11 df = 77.09; $p \leq 0.000$.		

Note: Unit of analysis is the person-year.

Results are weighted for sampling design and non-response.

Average problem drinking refers to having satisfied problem drinking criteria “on average” over the course of the study observation period.

Table 3

The Moderating Effects of Baseline Problem Drinking on the Relationship between Employment and Depression

Covariate	aOR	95% C.I.	p-value
Race/ethnicity (vs. White)			
Black	.68	(.45, 1.04)	0.08
Latina	.93	(.56, 1.53)	0.77
Other minority	.88	(.51, 1.52)	0.65
High school education	1.14	(.79, 1.64)	0.50
3+ children (vs. 0–2)	1.73	(1.30, 2.30)	0.00
Family support	.56	(.39, .80)	0.00
Study wave	.86	(.77, .97)	0.01
Currently employed	.66	(.50, .89)	0.01
Heavy drug use	1.83	(1.34, 2.51)	0.00
Baseline problem drinking	1.34	(.80, 2.24)	0.27
Changes in problem drinking status (vs. no change)			
Acquired drinking problem	3.03	(1.71, 5.38)	0.00
Existing problem resolved	.95	(.51, 1.75)	0.86
Baseline problem drinking and currently employed	1.16	(.67, 2.01)	.60
Model statistics			
Wald χ^2 , 14 df = 86.31; $p \leq 0.000$			

Note: Unit of analysis is the person-year.

Results are weighted for sampling design and non-response.