Employment Status of People With Mental Illness: National Survey Data From 2009 and 2010

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Objective: **The aim of this study was to describe employment according to mental illness severity in the United States during 2009 and 2010.** ***Methods:*** **The sample included all working-age participants (ages 18–64) from the 2009 and 2010 National Survey on Drug Use and Health (N=77,326). Two well-established scales of mental health distinguished participants with none, mild, moderate, and serious mental illness. Analyses compared employment rate and income by mental illness severity. Employment status was estimated with logistic regression models that controlled for demographic characteristics and substance use disorders. In secondary analyses the relationship between mental illness and employment was assessed for variation by age and education status.** ***Results:*** **Employment rates decreased with increasing mental illness severity (no mental illness, 75.9% employment; mild, 68.8%; moderate, 62.7%; and serious, 54.5%, p<.001). Over a third of people with serious mental illness, 38.5%, had incomes <$10,000 (compared with 23.1% of people with no mental illness, p<.001). The gap in adjusted employment rates comparing persons with serious versus no mental illness was 1% among people 18–25 years old versus 21% among people 50–64 (p<.001).** ***Conclusions:*** **More severe mental illness was associated with lower employment rates in 2009 and 2010. People with serious mental illness are less likely than people with no, mild, or moderate mental illness to be employed after age 49. (*Psychiatric Services* 65:1201–1209, 2014; doi: 10.1176/appi.ps.201300335)**

Mental disorders are associated with diminished labor market activity: people with mental illness are less likely to work than the general population (1–10), and those who work earn less than workers without mental illness (1,9). In studies of the general population, work has been associated with improvements in health and socioeconomic domains (11–14). Among people with mental illness, work has a positive association with economic (15), psychosocial (16–20), and clinical (21,22) improvements. In many studies, employment also correlates with short-term reductions in mental health costs (23–29). Monitoring disparities in employment by mental health status is thus a public health priority.

Three recent national phenomena are likely to have influenced labor participation in the United States: the large influx of people with mental illness enrolling for Social Security disability benefits (30), high unemployment rates associated with the recent recession (31), and evidence-based psychosocial services that support the employment goals of people with more severe mental illness (including schizophrenia) (31–33).

Disability enrollment

Economists estimate that $276 billion federal and state dollars were spent on working-age people with disabilities in 2002 (34). According to a Continuing Disability Review from the Social Security Administration, mental illness is now the primary diagnosis for one in three persons under the age of 50 who receive disabled worker benefits (unpublished raw data, Barrett CL, 2007). Beneficiaries with psychiatric impairments are often younger than other Social Security disability beneficiaries and therefore incur costs over a longer period (35,36). As the number of disability beneficiaries with mental illness grows steadily, policy makers have an increased interest in monitoring employment rates by mental health status.

Economic recession

The 2007–2009 recession in the United States was a period of substantially reduced economic activity. Unemployment changed dramatically, from an historic low of 4.4% before the recession in 2006 to a peak of 9.5% in 2009, with a slow recovery (31). Unemployment rates in 2010 remained well above 9%, even though the recession ended officially in June 2009 (31,37). The youth labor force (16- to 24-year-olds)

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and racial-ethnic minority groups were particularly vulnerable to unemployment during this period (38). Previous epidemiological studies describing associations between mental health and labor market outcomes may not generalize to the current period of high unemployment.

Evidence-based interventions

Employment rates among people with severe mental disorders, such as schizophrenia, major depressive disorder, or bipolar disorder, more than double when individuals receive evidence-based supported employment services (specifically, individual placement and support) (33). Evidence-based supported employment increases labor force participation among people with severe psychiatric illnesses through individualized services that focus on integrating vocational specialists into the mental health team and rapid job placement (39,40). This model represents a paradigmatic shift from previous employment interventions (such as day treatment) that offered sheltered experiences in preparation for work; these segregating models of care are slowly being defunded in the United States (41). Compared with previous rehabilitation models, services that support integrated jobs may make employment more likely for people with severe mental illness.

With data from the 2009 and 2010 National Survey on Drug Use and Health (NSDUH), this article provides a comprehensive overview of the current employment situation of people in the United States by mental health status.

Methods

Data source and study population

To study the link between employment and mental illness severity since the 2007–2009 recession, we analyzed survey responses of all 77,326 working-age adults (18–64 years old) from the 2009 and 2010 NSDUH public use files (www.icpsr.umich.edu/icpsrweb/SAMHDA/browse). The NSDUH is an annual survey of the civilian, noninstitutionalized U.S. population age 12 and older and is based on an independent, multistage area probability sample. The weighted response rate for all ages was 75.7% in 2009 and 74.7% in 2010 (42).

Measures

Employment status and related outcomes. Employment served as the primary outcome variable. Respondents were asked whether they worked in the week before the interview and, among those who worked, whether they usually worked 35 or more hours per week. Following the practice used by the U.S. Bureau of Labor Statistics, we use "full-time" to refer to respondents who usually worked 35 or more hours per week and "part-time" to refer to other working respondents. "Unemployed" respondents did not have a job, were looking for a job, or were laid off. "Out of labor force" respondents were not in the labor force, which included students, persons caring for children full time, retired or disabled persons, and others not in the labor force.

In addition, the NSDUH collected information on each respondent's total income in increments of $10,000, absenteeism (which we defined as missed or skipped at least one day of work in the past week), occupation categories (using 2003 U.S. Census codes), and benefits status (family member received Social Security or U.S. Railroad payments in the past year and family member received Supplemental Security Income payment in the past year). Less than .3% of Social Security payments are U.S. Railroad payments (43). Hereafter we describe them as just "Social Security" payments, which, in this sample of adults age 18–64, describe the population receiving disability payments.

Past-year mental illness severity. The study focused on four categories of mental illness severity—no mental illness, mild mental illness, moderate mental illness, and serious mental illness—based on two assessments available in the NSDUH. The Substance Abuse and Mental Health Services Administration developed models to predict mental illness severity based on responses to two short self-assessments, the K6 assessment of nonspecific psychological distress (44,45) and a shortened, eight-item version of the World Health Organization Disability Assessment Schedule (WHODAS) for functional impairment (46,47). In 2008, a total of 1,506 adults were administered the Structured Clinical Interview for DSM-IV (SCID) via telephone by mental health clinicians. In years since, NSDUH reported four categories of mental illness severity based on parameter estimates from a model of scores on the clinician-administered SCID as a function of the K6 and WHODAS scores (48,49).

Selection of adjustment factors. We selected potential adjustment factors based on past labor supply studies. A meta-analysis of 62 studies of employment among people with schizophrenia found that cognitive functioning, education, negative symptoms, social support and skills, age, work history, and rehabilitation services predicted better employment outcomes, whereas positive symptoms, substance abuse, gender, and hospitalization history did not; marital status was marginally significant (50). Relevant covariates among people with none or mild to moderate mental disorders were determined by referring to a review of studies conducted in industrialized nations (1) and census data. Among people with mild mental illness, the following characteristics were associated with work status: gender (10,51), age (10,51,52), education (10,51,52), marital status (53), race-ethnicity (10,52), substance use (54), general health (10), children in household (51), criminal justice involvement (55), and a measure of the local community context (51) (urbanicity).

Past-year substance use disorder. The NSDUH provides measures of substance abuse or dependence based on *DSM-IV* criteria. Alcohol, marijuana, hallucinogens, inhalants, tranquilizers, cocaine, heroin, pain relievers, stimulants (including methamphetamine), and sedatives were all directly covered by questions in the survey. Participants were categorized as having no substance use disorder, alcohol abuse only, alcohol dependence only, drug abuse only, drug dependence only, or abuse or dependence of both alcohol and drugs.

Health status. Self-reported general health was captured by asking, "Would you say your health in general is excellent, very good, good, fair, or poor?" Because of the low frequency of responses indicating poor health, "fair" and "poor" categories were collapsed.

Sociodemographic characteristics. This study also included the following sociodemographic variables: age categories (18–25, 26–34, 35–49, and

50–64), gender (male or female), race-ethnicity (white, black, Hispanic, or other), education attainment (less than high school, high school graduate, some college, and college graduate or higher), marital status (never married or ever married), number of children under age 18 in the household (zero, one, two, or three or more), number of times arrested and booked in the past year (zero, one, two, or three or more times), and county type of residence (large metropolitan area, small metropolitan area, or nonmetropolitan area).

Analytic strategy

Descriptive analyses were conducted to compute employment rates, sociodemographic characteristics, and the remaining employment outcomes across mental illness severity categories. Multivariate logistic regression was used to identify factors associated with any employment stratified by mental illness severity. We ran all models twice: using the validated mental illness severity for the NSDUH based on WHODAS, K6, and a clinically validated subsample and again using just the K6 symptom score based on approximate mental illness percentile cutoffs (none versus mild illness at the 80th percentile, mild versus moderate at the 90th, and moderate versus serious at the 95th). The models based on only the K6 measure tested the sensitivity of our results to items in the WHODAS that may be too close to our outcome variables describing employment.

Given differences in the association between mental illness severity and education and between mental illness and age, we tested interactions of age and education × mental illness status in the final multivariate logistic regression model. All proportions and other estimates were computed with sample weights to reflect the target population of the study, working-age adults in the United States. In addition, variance estimates using standard approaches (specifically, Taylor series approximations) accounted for the complex stratified sampling design in the NSDUH. We used Stata SE, version 12, to conduct all analyses. The Dartmouth College Committee for the Protection of Human Subjects deemed these analyses, using publicly available, deidentified secondary data, exempt from review.

Table 1

Demographic characteristics of adults 18–64, by mental health status, 2009–2010[a]

	Past-year mental illness							
	None (N=57,283)		Mild (N=10,643)		Moderate (N=4,170)		Serious (N=5,230)	
Characteristic	N	%	N	%	N	%	N	%
Female	26,647	48.1	6,069	57.0	2,524	58.9	3,589	66.7
Age								
18–25	26,604	15.9	6,229	25.0	2,474	24.4	3,013	23.8
26–34	8,506	18.5	1,587	21.4	634	22.0	807	21.3
35–49	12,655	33.8	1,847	32.1	718	29.5	1,019	32.6
50–64	5,749	31.7	642	21.4	262	24.1	331	22.4
Education								
Less than high school	8,384	13.3	1,745	14.1	775	17.1	909	15.5
High school graduate	17,496	30.0	3,308	29.6	1,358	28.7	1,758	33.0
Some college	15,508	26.0	3,166	28.2	1,262	29.4	1,709	30.9
College graduate or higher	12,126	30.7	2,086	28.1	713	24.8	794	20.6
Ever married	24,960	28.8	3,669	40.7	1,453	41.8	2,031	38.5
Race-ethnicity								
White	33,120	64.8	6,629	68.7	2,652	68.3	3,532	73.0
Black	6,882	12.5	1,270	12.0	468	11.3	470	9.5
Hispanic	8,961	15.9	1,433	12.4	593	14.4	684	12.1
Other	4,551	6.8	973	6.9	375	6.1	484	5.5
Substance use								
No substance use disorder	47,851	92.8	7,880	82.5	2,942	78.4	3,487	75.6
Alcohol abuse only	2,727	3.7	771	6.0	312	5.2	343	4.9
Alcohol dependence only	1,374	2.2	748	6.3	340	8.1	525	9.8
Drug abuse only	304	.3	121	.9	66	1.6	72	1.1
Drug dependence only	624	.7	368	2.4	172	4.0	316	5.3
Abuse of or dependence on alcohol and drugs	357	.3	250	1.8	149	2.7	277	3.4
General health								
Excellent	15,952	27.7	2,188	19.3	699	14.0	741	11.6
Very good	21,365	38.5	4,037	35.8	1,521	32.7	1,759	30.1
Good	12,717	25.1	2,905	29.3	1,269	32.0	1,614	30.5
Fair or poor	3,474	8.7	1,175	15.6	598	21.3	1,056	27.8
Children <18 years old in household								
0	35,028	62.0	7,210	63.8	2,868	68.0	3,590	66.9
1	8,272	15.9	1,445	15.0	611	14.8	753	14.6
2	6,477	14.0	1,041	13.5	382	10.9	500	11.2
≥3	3,680	8.1	603	7.7	224	6.3	325	7.3
Arrests and bookings in past year								
0	50,594	97.4	9,470	95.1	3,688	94.5	4,626	91.9
1	1,712	2.0	523	3.7	223	3.7	338	5.8
2	337	.4	108	.7	74	1.1	88	1.4
≥3	192	.2	68	.4	37	.8	60	.9
County type								
Large metropolitan area	23,860	54.7	4,557	53.2	1,759	53.1	2,096	48.9
Small metropolitan area	18,526	29.9	3,651	31.3	1,479	32.5	1,922	31.9
Nonmetropolitan	11,128	15.4	2,097	15.5	850	14.3	1,152	19.2

[a] Source: National Survey on Drug Use and Health, 2009 and 2010. Values are expressed as crude Ns and adjusted percentages. Proportions are weighted to be nationally representative. All p values for chi square test of differences across mental illness severity groups were statistically significant ($p<.001$).

Results

Demographic characteristics

Table 1 displays demographic information for 77,326 working-age adults by mental illness severity. The age distribution of respondents was similar across categories, with most of the population falling between ages 26 and 49. In contrast, more educated respondents were concentrated in the group without mental illness (30.7% and 20.6% graduated from college in the no mental

Table 2

Employment and income of adults 18–64, by mental health status, 2009–2010[a]

	Past-year mental illness							
	None (N=57,283)		Mild (N=10,643)		Moderate (N=4,170)		Serious (N=5,230)	
Observation	N	%	N	%	N	%	N	%
Employment								
Full-time	28,100	61.7	4,394	50.9	1,576	46.6	1,777	38.1
Part-time	10,300	14.2	2,428	17.9	944	16.1	1,149	16.4
Unemployed	5,149	7.0	1,211	9.4	548	10.2	660	10.5
Out of labor force	9,965	17.1	2,272	21.8	1,020	27.1	1,584	35.1
Respondent's total income								
<$10,000 (including loss)	19,812	23.1	4,778	32.0	2,014	35.5	2,596	38.5
$10,000–$19,999	10,625	16.3	2,207	18.9	913	21.1	1,230	23.2
$20,000–$29,999	6,912	13.6	1,223	13.4	451	12.4	546	12.1
$30,000–$39,999	5,013	11.9	761	10.8	298	10.1	299	8.2
$40,000–$49,999	3,489	9.2	456	6.7	157	7.6	194	5.8
$50,000–$74,999	4,295	13.2	554	10.3	151	6.9	190	7.5
≥$75,000	3,368	12.8	326	7.8	104	6.3	115	4.8
Past-year benefits to family								
Social Security	5,050	12.8	1,186	14.7	531	18.2	786	20.8
Supplemental Security Income	2,925	5.8	818	8.6	380	11.5	567	13.2
Employed respondent's total income[b]								
<$10,000 (including loss)	9,130	12.3	2,241	19.1	874	20.1	1,017	21.4
$10,000–$19,999	8,296	15.7	1,655	18.7	654	20.2	816	23.0
$20,000–$29,999	5,989	15.0	1,035	15.6	358	15.5	429	16.3
$30,000–$39,999	4,488	13.8	666	13.5	256	14.0	242	11.8
$40,000–$49,999	3,222	11.0	419	8.9	142	10.7	166	8.3
$50,000–$74,999	4,062	16.2	503	13.9	138	9.9	153	11.1
≥$75,000	3,213	16.0	303	10.4	98	9.6	103	8.1
Missed or skipped work ≥1 day in past week[b]	9,559	21.5	2,304	30.5	997	37.9	1,239	40.7
Occupation category[b]								
Executive, administrative, managerial, or financial	4,053	14.5	578	13.6	199	12	5,062	11.4
Professional (not education, entertainment, or media)	3,696	12.8	586	11.4	194	11.9	4,688	10.3
Education and related occupations	2,166	6.2	401	7.1	154	6.5	2,886	8.1
Entertainers, sports, media, and communications	805	2.2	196	3.1	60	2.2	1,141	3.6
Technicians and related support occupations	2,216	5.2	457	5.9	173	5.3	3,075	6.9
Sales occupations	4,574	9.9	953	11.6	392	14.3	6,352	11.4
Office and administrative support workers	4,937	12.4	973	14.2	369	14.3	6,722	14.5
Protective service occupations	930	2.5	125	1.9	43	2.5	1,143	2.2
Service occupations, except protective	6,648	11.7	1,485	15.5	547	14.3	9,368	18.1
Farming, fishing, and forestry occupations	375	.7	45	.3	15	.2	447	.3
Installation, maintenance, and repair workers	1,386	4.0	154	2.5	53	2.5	1,653	1.5
Construction trades and extraction workers	2,426	5.9	319	4.4	101	4.7	2,925	2.5
Production, machinery setters, operators, and tenders	2,199	5.9	286	4.0	117	5.4	2,734	4.9
Transportation and material moving workers	2,283	6.0	334	4.7	131	3.9	2,883	4.2

[a] Source: National Survey on Drug Use and Health, 2009 and 2010. Values are expressed as crude Ns and adjusted percentages. Proportions are weighted to be nationally representative. All p values for chi square test of differences across mental illness severity groups were statistically significant ($p<.001$).

[b] Among persons employed full- or part-time in the past year

illness and serious mental illness categories, respectively). The share of individuals without a substance use disorder was highest among respondents without mental illness (92.8%) compared with the serious mental illness group (75.6%). Self-reported fair or poor general health was also much more common in the group with serious mental illness (27.8%) relative to the group without mental illness (8.7%). Approximately 8% of the sample with serious mental illness reported an arrest in the past year, compared with only 2.6% in the group without mental illness. All differences shown in Table 1 across mental illness severity groups were statistically significant ($p<.001$).

Employment rates

Table 2 presents (and Figure 1 highlights) nationally representative employment rates among working-age adults by mental health status. Employment fell sharply as mental illness severity increased. Full-time employment in 2009–2010 was 61.7% among people with no mental illness versus

38.1% among people with serious mental illness. Rates of part-time employment and unemployment showed similar patterns across severity categories. Rates of being out of the labor force were twice as high for adults with serious mental illness (35.1%) compared with adults without mental illness (17.1%). Differences in employment across mental illness severity groups were statistically significant ($p<.001$).

Other employment outcomes

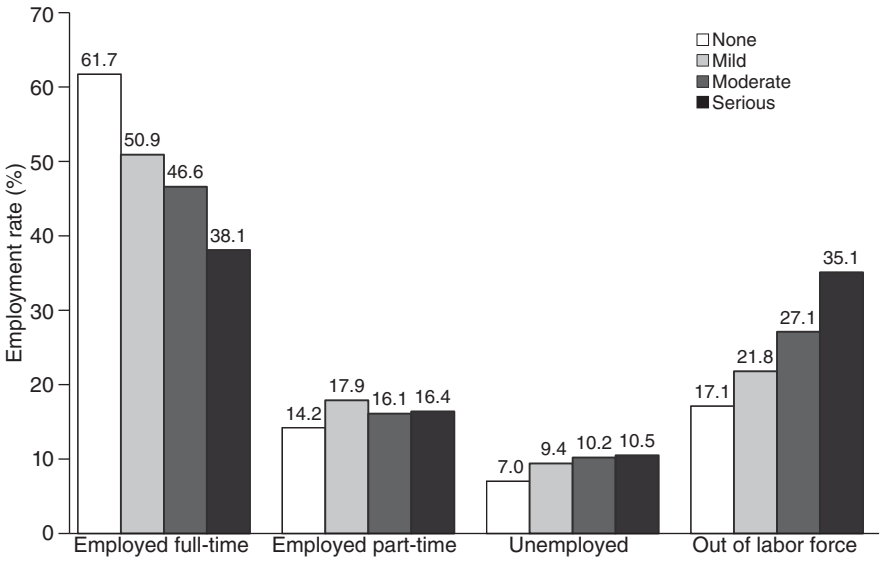
Table 2 also provides detail about occupation, income, and absenteeism among workers by mental illness severity. Employment rates by occupation were largely consistent across mental illness severity categories, although individuals with mental illness were slightly more likely to be in sales or service occupations. In spite of these similarities, employed persons with a serious mental illness earned far less than employed persons without a serious mental illness. For example, 21.4% of employed individuals with serious mental illness earned under $10,000, compared with only 12.3% of employed persons without mental illness. Among families of respondents with serious mental illness, 20.8% received Social Security payments, and 13.2% received Supplemental Security Income in the past year. People with serious mental illness were more likely to miss or skip a day of work (40.7%) compared with people with no mental illness (21.5%), mild mental illness (30.5%), or moderate mental illness (37.9%). All differences shown in Table 2 across mental illness severity groups were statistically significant ($p<.001$).

Associations with full- or part-time employment

Table 3 provides estimates from logistic regression analyses that identified variables associated with employment status. The likelihood of employment generally increased from young adulthood (18–25) to adulthood (26–34), except among individuals with serious mental illness. After reaching age 50, people with moderate and serious mental illness were far less likely to work than those with mild or no mental illness ($p<.001$ for a test of joint significance of age × mental illness severity)

Figure 1

Employment rates among adults 18–64, by mental health status, 2009–2010[a]



[a] Source: National Survey on Drug Use and Health, 2009 and 2010. Percentages are weighted to be nationally representative.

(Figure 2). Education status was strongly associated with employment, within all categories of mental illness severity. [A figure showing employment rate among adults by education level is shown in the online data supplement to this article.]

Overall models where mental illness severity was defined with the validated NSDUH model versus the symptom-only classification (K6) showed strikingly similar patterns [details are provided in the online data supplement].

Discussion

In a nationally representative sample of working-age adults in 2009–2010, people with moderate or serious mental illness were employed less often than adults with no reported mental illness. As with national data from the 1990s, we found that people with mental illness were represented in all occupation categories (10), yet income disparities remained. Nearly 40% of people with serious mental illness had income under $10,000 per year—well below substantial gainful activity thresholds that determine eligibility for federal disability payments. Mental illness had a much weaker relationship to employment among people under age 50 than those 50 and older.

People with more serious mental illness were less likely to report full-time employment than people without serious mental illness, although this estimate is nearly double the full-time employment rates reported in an earlier study (38% in this study versus 24% in a previous study) (10). The previous study analyzed data from the 1994–1995 National Health Interview Survey on Disability, which used a more stringent definition of serious mental illness that excluded undiagnosed individuals (self-reported diagnosis of schizophrenia, paranoid states, mood disorders, other nonorganic psychoses, or psychosis with origins specific to childhood in the past 12 months). One possible explanation is that undiagnosed individuals may not access services that would result in diagnostic assessment because they have fewer functional limitations.

Compared with the large differences in full-time work by mental illness severity, differences in unemployment and part-time employment were much more subtle. Rather than working part-time or seeking work, people with mental illness who are not working full-time appear to be displaced from the labor force entirely (out of the labor force). Most people with mental illness, even the most

Table 3

Employment rates among adults 18–64, by mental health status and predictors of employment, 2009–2010[a]

Observation	Model 1: No mental illness			Model 2: Mild mental illness			Model 3: Moderate mental illness			Model 4: Serious mental illness		
	%	OR	95% CI	%	OR	95% CI	%	OR	95% CI	%	OR	95% CI
Age												
18–25 (reference)	65	—	—	66	—	—	65	—	—	64	—	—
26–34	77	1.92	1.75–2.12	70	1.23	.99–1.52	72	1.41	1.04–1.92	61	.90	.69–1.16
35–49	80	2.25	2.04–2.48	74	1.47	1.15–1.87	71	1.36	.95–1.94	64	1.00	.76–1.33
50–64	69	1.22	1.08–1.38	65	.93	.69–1.27	52	.56	.36–.86	48	.50	.34–.72
Race-ethnicity												
White (reference)	71	—	—	70	—	—	70	—	—	62	—	—
Black	69	.87	.78–.97	61	.66	.51–.85	57	.59	.43–.81	58	.83	.56–1.22
Hispanic	71	1.00	.87–1.14	70	1.02	.81–1.29	71	1.16	.83–1.62	63	1.04	.75–1.43
Other	68	.84	.71–.98	64	.76	.56–1.04	61	.71	.42–1.20	66	1.22	.62–2.41
Education												
Less than high school (reference)	58	—	—	54	—	—	46	—	—	46	—	—
High school graduate	69	1.64	1.46–1.83	65	1.61	1.29–2.00	64	2.17	1.58–3.00	59	1.67	1.20–2.33
Some college	75	2.26	2.02–2.52	73	2.48	1.94–3.18	70	2.88	2.00–4.15	65	2.26	1.69–3.03
College graduate or higher	77	2.60	2.25–3.01	78	3.17	2.45–4.09	79	4.69	3.02–7.28	74	3.44	2.28–5.18
Gender												
Male (reference)	76	—	—	72	—	—	76	—	—	76	—	—
Female	65	.55	.52–.59	65	.73	.61–.87	65	.97	.77–1.22	65	.82	.64–1.05
Ever married												
No (reference)	69	—	—	66	—	—	65	—	—	58	—	—
Yes	73	1.22	1.10–1.34	71	1.31	1.05–1.63	67	1.09	.78–1.52	67	1.52	1.10–2.09
General health												
Excellent (reference)	73	—	—	71	—	—	71	—	—	68	—	—
Very good	74	1.07	.97–1.18	72	1.03	.87–1.22	67	.82	.57–1.17	65	.90	.67–1.20
Good	69	.82	.74–.91	67	.83	.70–.99	67	.82	.54–1.24	59	.67	.51–.88
Fair or poor	51	.34	.30–.39	48	.35	.26–.45	45	.30	.19–.46	36	.25	.18–.34
Children <18 years old in household												
0 (reference)	71	—	—	69	—	—	65	—	—	62	—	—
1	74	1.20	1.10–1.31	69	1.02	.81–1.27	70	1.28	.87–1.88	59	.85	.63–1.16
2	71	1.03	.94–1.13	69	1.04	.81–1.34	72	1.43	.95–2.16	62	1.00	.71–1.42
≥3	63	.67	.60–.76	62	.73	.55–.98	60	.80	.46–1.37	61	.92	.61–1.39
Arrests and bookings in past year												
0 (reference)	71	—	—	69	—	—	67	—	—	62	—	—
1	62	.65	.52–.80	60	.67	.50–.89	62	.78	.51–1.21	51	.59	.38–.92
2	55	.46	.29–.72	46	.34	.20–.60	56	.59	.31–1.12	59	.87	.42–1.82
≥3	59	.55	.31–.95	55	.52	.24–1.14	50	.45	.14–1.44	53	.66	.27–1.65
County type												
Large metropolitan area (reference)	71	—	—	68	—	—	68	—	—	63	—	—
Small metropolitan area	70	.98	.91–1.06	69	1.03	.88–1.21	64	.79	.62–1.02	62	.94	.77–1.14
Nonmetropolitan	70	.97	.87–1.08	68	1.02	.83–1.25	66	.92	.68–1.23	59	.84	.61–1.15
Substance use												
No substance use disorder (reference)	70	—	—	68	—	—	66	—	—	61	—	—
Alcohol abuse only	74	1.23	1.01–1.49	72	1.20	.87–1.65	69	1.17	.73–1.88	65	1.19	.77–1.82
Alcohol dependence only	71	1.01	.83–1.24	69	1.04	.72–1.49	72	1.33	.93–1.90	68	1.37	1.01–1.86
Drug abuse only	72	1.07	.75–1.51	61	.70	.41–1.20	63	.86	.41–1.80	59	.92	.34–2.45
Drug dependence only	71	1.04	.75–1.44	59	.63	.44–.89	52	.52	.31–.87	57	.83	.57–1.21
Abuse of or dependence on alcohol and drugs	64	.74	.45–1.21	60	.67	.42–1.06	60	.74	.44–1.23	68	1.40	.92–2.19

[a] Source: National Survey on Drug Use and Health, 2009–2010. Percentages are adjusted predicted probabilities based on logistic regression models stratified by mental illness severity groups. Odds ratios and confidence intervals for the adjusted relationship between mental illness severity and employment status are reported in the online data supplement to this article.

severely disabled, are capable of part-time work when provided appropriate supports (56). There are several explanations for why so many individuals with mental illness are out of the labor force entirely. People with more serious mental health issues have fewer incentives to seek work because disability policies often restrict eligibility

to those not working in any significant capacity (57), employers are reluctant to hire individuals with psychiatric disabilities (58), and people with serious mental illness may be unaware of or unable to access job supports (33).

Variation in the age × employment relationship across mental illness severity groups was substantial. Among older adults, half with moderate or serious mental illness worked part-time or full-time, substantially less than their peers with mild or no mental illness, replicating an earlier study (10). Many older nonworking adults with moderate or serious mental illness were out of the labor force, rather than unemployed, a comparison not examined in prior research. Adults over age 50 with moderate or serious mental illness may be more likely to drop out of the workforce because of social acceptability (supply), but discrimination against older workers with mental illness (demand) is a more likely explanation because many older people with serious mental illness want to work (59). In contrast, younger workers living with mental illness did not experience the same decrement to labor force participation, suggesting opportunities to prevent exits from the labor force in younger populations.

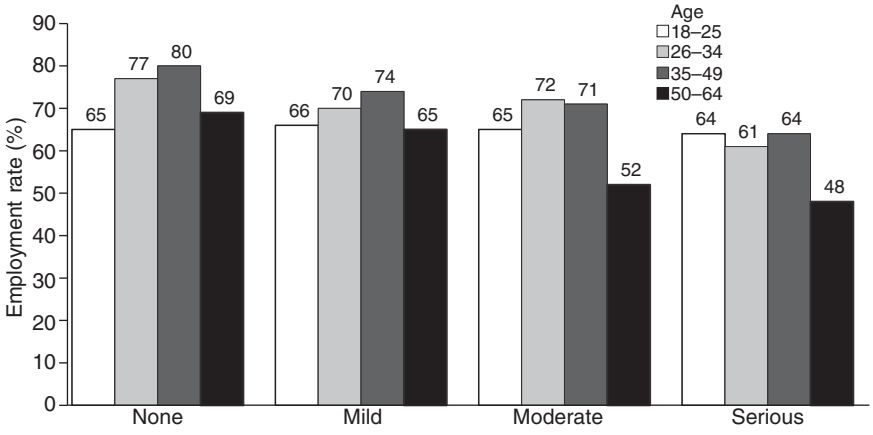
Education status, known to facilitate employment opportunities (60), was the strongest predictor of employment even among people with serious mental illness. This finding is consistent with previous research in clinical and community samples (10,61,62) and suggests that facilitating educational achievement may facilitate job placement. Longitudinal research is needed to test alternative explanations: educational achievement may be a proxy for later illness onset, less serious illness, or more intensive service use.

Several limitations warrant consideration. This cross-sectional, descriptive study does not permit causal interpretation of any association between mental illness and employment outcomes. Even without the ability to draw causal inference from the results, these descriptive data fill a gap in evidence. Most psychiatric epidemiological studies of workforce participation focus on a single diagnostic group, use simplistic vocational outcomes (such as employment versus no employment), or fail to compare samples with mental illness with mentally well control samples. Mechanic and colleagues (10) provided a richer overview, describing employment rates by work intensity and occupational category among people with none, any, or serious mental illness, although the study presented data from the 1990s when the economic circumstances differed considerably from those since the most recent recession (2007–2009).

In addition, this study sample did not include people in institutional settings (prisons, hospitals, or treatment centers), where individuals with the greatest illness burden are likely to reside, although institutionalized individuals are not generally participating in the labor force. Third, short-form diagnostic surveys commonly used in the NSDUH are limited in their ability to distinguish between individuals with moderate affective illness and individuals with serious mental illness (typically defined as psychotic disorders with at least two years of illness burden). Although steps were taken to validate these self-reported measures of illness (48,49), self-report bias may have over- or underestimated the prevalence of mild, moderate, or serious mental illness. Lack of information on date of illness onset significantly limited possible inferences (1). Finally, participation in the national survey was high but incomplete, which may have resulted in an under- or overestimation of mental illness.

Figure 2

Employment rates among adults 18–64, by age within mental health status groups, 2009–2010[a]



[a] Source: National Survey on Drug Use and Health, 2009 and 2010. Percentages are adjusted predicted probabilities based on logistic regression models stratified by mental health status, with adjustment for age, gender, education, marital status, race-ethnicity, substance use disorders, self-reported general health, number of children in household, arrests in past year, and county type. Full model results are available in Table 3.

Conclusions

Employment rates varied substantially by mental illness severity in 2009–2010. Even during times of high unemployment, college graduates with serious mental illness had relatively strong employment outcomes. Unemployment rates spiked among people with serious mental illness over age 50, even compared with age-matched peers.

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