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Abstract

Despite legislation promoting youth transition from school to employment, and despite growing knowledge of factors contributing to successful transitions, youth with disabilities continue to work at lower rates compared with their nondisabled peers. Over the past decade, efforts specifically directed toward reducing this intractable employment gap between these two groups of youth have met with relatively little success. Marriott Foundation's Bridges from School-to-Work Program, a national multisite intervention offering paid competitive employment to high school youth enrolled in special education programs prior to school exit, addresses obstacles to labor market participation confronted by youth with disabilities, with an intensive, time-limited vocational intervention at seven inner-city urban sites across the United States. We found universally high job placement rates of a large sample of youth with disabilities enrolled in high school over several recent years of operation (2006 to 2011) across their sociodemographic and disability characteristics, and across diverse urban areas throughout the United States. Thus, we argue that educational, disability, and rehabilitation professionals should hold high expectations for employment success of these youth, regardless of their disabilities and the local economic conditions of the communities in which they live.

Keywords

youth with disabilities, school-to-work transition, career/vocational, employment program participation, gender disparities

Despite legislation promoting youth transition from school to employment, and growing knowledge of factors contributing to successful transitions, youth with disabilities continue to work at lower rates compared with their nondisabled peers, with the United States Bureau of Labor Statistics (USBLS, 2012) showing a nine percentage point gap in labor force participation rates in 2008 through 2009 for 16- to 19-year-old youth with disabilities compared with their nondisabled peers (Fogg & Harrington, 2010). Over the past decade, efforts specifically directed toward reducing this persisting employment gap between these two groups of youth have met with some success (Newman et al., 2011), although the recent global economic downturn, and its unprecedented slow recovery, has undermined their posthigh school employment and career prospects (Fogg & Harrington, 2010). The national employment rate and job outlook for minority youth with disabilities continues to look grim. For example, the National Longitudinal Transition Study-2 (NLTS-2, 2005), a 10-year investigation of a nationally representative sample of youth enrolled in special education programs, recently reported an overall 7% employment gap between Whites and African

American youth after leaving school, and a 17 percentage point employment gap at 8 years post-high school (Newman et al., 2011).

Because work contributes mightily to developing positive and stable adult identities, quality of life, subjective well-being, and future career success and earnings potential (Blustein, 2008; Levine & Wagner, 2005; Shandra & Hogan, 2008), national transition policy makers and researchers have invested considerable resources to design school-based interventions to improve postsecondary employment and career prospects of youth with disabilities. In recent years, a substantial body of empirical studies has reported substantive associations among individual, programmatic, and contextual factors with improving school-to-work

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outcomes for transitioning youth with disabilities (Alverson, Naranjo, Yamamoto, & Unruh, 2010).

One of the most robust predictors of successful posthigh school employment success for youth with disabilities emerging from these studies is having held a paid job during school enrollment (Benz, Lindstrom, & Yovanoff, 2000; Landmark, Ju, & Zhang, 2010; Test et al., 2009). For example, Carter, Austin, and Trainor (2012) found that, for youth with severe disabilities, paid employment during school most strongly predicted work status 2 years after school exit, replicating findings from multiple earlier studies of predictors of employment outcome for youth with high prevalence disabilities (Baer et al., 2003; Benz et al., 2000; Fabian, 2007; Shandra & Hogan, 2008). Paid work during school likely strengthens youths' labor market competitiveness, especially through acquiring work skills, increasing their work and career performance expectations as well as those of their families, enhancing work-related self-efficacy beliefs, and developing business contact networks that turn up additional future job opportunities (Allen, Ciambone, & Welch, 2000; Burgstahler, 2001; Shandra & Hogan, 2008).

Despite widespread endorsement of a national policy promoting employment of youth with disabilities (e.g., National Council on Disability, 2010; President's Commission Excellence in Special Education, 2003), and evidence of labor market advantages accruing from paid-work experience during school years (Carter et al., 2012; Certo & Luecking, 2011), few youth with disabilities actually obtain paid competitive jobs during school (Boeltzig, Timmons & Butterworth, 2009; Landmark et al., 2010). For example, Carter, Austin, and Trainor (2011) found that fewer than 30% of youth with severe disabilities reported a paid-work experience during school in a study of factors associated with paid-work experience during high school. Similarly, a NLTS-2 Report (Wagner et al., 2003) indicated that only 19% of a nationally representative sample of youth with disabilities participated in paid-work experience during school. In a subsequent reanalysis of NLTS-2 data, Shandra and Hogan (2008) reported that, although 35% of youth with disabilities had worked during school, only 12% of these jobs were considered integrated "hands on" employment, such as apprenticeships or internships. Thus, although any type of career or vocational experience during high school improves the odds of more successful posthigh school employment outcomes, we argue that paid competitive employment specifically may boost posthigh school labor market outcomes.

Description of the Bridges From School-to-Work Program

In 1989, the Marriott Foundation for People With Disabilities, a nonprofit foundation of the parent Marriott Corporation (2006), established the Bridges from School-to-Work

Program. The Bridges Program defines its core mission to improve employment outcomes for youth with special education needs, by offering assistance with making seamless transitions from school to work, and school to higher education/career (Tilson, Luecking, & Donovan, 1994). To achieve this mission, the Bridges Program operates a standardized school-to-work vocational intervention for youth with special education needs during the 2 years prior to school exit at nine U.S. urban sites: Atlanta, Chicago, Dallas, District of Columbia, Los Angeles, New Orleans, Philadelphia, Oakland, and San Francisco, securing its funding from multiple sources, including local, state, and federal grants, as well as private corporate donations.

Each of the nine Bridges Program sites cooperates with local educational partners through agreements with locally designated urban school districts. The majority of students make their first contact with the Bridges Program either through referral by school-based personnel or by self-referral. Students are eligible to enroll, if they receive special education services, reached their last year or two of secondary education, and consent to participate (Fabian, 2007). Since its inception in 1989, the Bridges Program has served nearly 20,000 youth with disabilities.

The standardized Bridges intervention is highly focused, assisting youth to identify a long-term occupational objective, and then finding a paid competitive job as a first step in advancing them toward that objective. The intervention consists of three phases (Fabian, 2007):

- (a) *Career counseling and job placement*: Bridges staff assist youth with identifying interests, skills, and accommodation needs through interviews with youth and information gathering from teachers and family members. A youth profile is developed that is the basis for identifying prospective employers and for initiating the job search.
- (b) *Paid work secured with assistance from Bridges staff support*: Bridges staff continuously develop, maintain, and expand a network of employer contacts from which the youth can make contact for job interviews, with or without staff assistance, depending on the wishes and experience of the youth. Negotiating the employment arrangement is also done with staff support as necessary.
- (c) *Follow-along support and tracking of Bridges participants' performance on the job*: As negotiated with the employer, staff provide posthire support to the youth and the employer for job training and orientation, performance management, and workplace accommodations as necessary.

The Bridges national office in Bethesda, Maryland, oversees project management to ensure fidelity to the intervention model's principles and practices articulated in a Field

Manual, which specifies procedures, programmatic interventions, reporting requirements, and other administrative policies. The National Office provides mandatory training, regular in-service training, supervisory guidance, and performance monitoring to its direct service staff—“Employer Representatives”—at each site. A comprehensive data management system tracks participant enrollment, service status, and employment outcomes.

Each of the nine program sites enrolls students during fall and spring cycles corresponding to the traditional school year. Program sites vary slightly in size at each site; a project director hires and manages five to eight direct service staff, depending on site funding availability. In a typical year, each employer representative across sites serves about 20 students.

Prior Evaluations of Bridges Program Employment Outcomes

Bridges Program student outcomes have been reported in several studies since program start-up (Fabian, 2007; Fabian, Lent, & Willis, 1998; Luecking & Fabian, 2000; Tilson et al., 1994). Analysis of job placement rates for Bridges participants between 2000 and 2005 found that, overall, young men more likely secured a job compared with young women, and Latina women less likely secured a job placement compared with any and all other groups (Fabian, 2007). Previous paid-employment experience most strongly predicted working during Bridges participation. Fabian et al. (1998) examined program completion rates for more than 2,000 Bridges participants and found that student work behaviors, such as days absent or tardy on the job, accounted for more variation in completion rates, beyond sociodemographic and disability characteristics.

In a study of participants successfully completing the Bridges Program, Luecking and Fabian (2000) found that participants across all disability categories fared equally well in securing employment after school exit, except those diagnosed from school records with “severe emotional disturbance,” who obtained jobs at much lower rates, after controlling for sociodemographic and disability characteristics and student work behaviors. Overall, more than 80% of students who secured a paid-work experience at school exit remained employed during the first 6-month follow-up period, although rates tended to fall off thereafter (Fabian et al., 1998; Luecking, & Fabian, 2000).

Research Questions

These Bridges Program studies analyzed participants’ employment outcomes aggregated across geographic service sites and years of operation. However, very few studies report job placement rates for youth with disabilities by

geographic sites and years. Therefore, because the Bridges Program’s highly standardized vocational intervention has been offered for many years, comprehensive interview and program administrative record data are now available for rigorously investigating associations of geographic site (nine major cities across the continental United States), by year (6 years of operation between 2006 and 2011), on job placement rates for predominantly minority high school youth with disabilities ($N = 5,847$). Situating findings by site and year, both of which indirectly proxy for secular trends in local economic and labor market conditions, may assist special education and rehabilitation personnel in developing and implementing innovative practices at other sites to increase the odds that youth with disabilities will secure competitive jobs during school, and improve their postschool exit outcomes (e.g., Landmark et al., 2010). Thus, we addressed two research questions:

Research Question 1: Which sociodemographic and disability characteristics, special educational placements, prior work history, household income, program site, and program year predict whether a Bridges Program participant with disabilities obtains a competitive job?

Research Question 2: Controlling for site, to what extent does gender, disability, ethnicity, and their two-way interactions, and median household income, predict Bridges Program job placement rates?

Method

Data Source

At the time of enrollment, and with the consent of parents and assent of students, Bridges Program “Employment Representatives” interview students and parents to collect data on primary and secondary disabilities, current special educational placements, Social Security beneficiary status, previous vocational experience, and other characteristics. They enter participants’ past and prospectively collected employment outcome data into their site-based electronic management information systems, according to a standardized “Forms and Files Manual Protocol” (Marriott Foundation for People With Disabilities, 2005), which they upload to the Marriott Foundation headquarters office in Bethesda, Maryland. On an ongoing basis, a full-time headquarters-based staff member reviews data for accuracy and consistency.

Through a subcontract agreement with TransCen, Inc., the Foundation makes the database available for analysis to an author of this study under contract to TransCen. All headquarters’ data are downloaded by a secure server into an Excel file, and then stripped of all participants’ identifying information. The Marriott Foundation’s complete

database contains 18,793 participants enrolled between program start-up in 1989 to the present. The program assigns participants to a cohort defined by the academic year. We analyzed data for enrolled students over 6 cohort years, between 2006 and 2011.

Constructing the Analysis Sample

The Bridges Program data set was designed for purposes of program administration and tracking sites' compliance with the program intervention elements. Thus, as is the case with most administrative data sets not collected specifically for research purposes, extensive data quality evaluation is essential prior to analysis (e.g., eliminating cases with obvious errors). The total program sample available to us for years 2006 to 2011 was 6,028. We dropped all cases from the New Orleans site, which only recently began operations ($n = 29$). We eliminated 152 other cases due to likely data entry errors: (a) first job hire date preceding program enrollment date ($n = 125$) and (b) program exit dates preceding enrollment dates ($n = 27$), yielding a final sample size of 5,847. Most of the selected predictors of job placement rates we analyzed are missing data; we note these exact numbers in our analyses.

Primary Outcome Variable: Job Placement Rates

We defined the primary employment outcome as "job placement," that is, whether a Bridges Program participant secured a job in the competitive labor market during his or her program participation. Secondary employment outcomes included starting wage and starting weekly hours for the first competitive job obtained.

Predictor Variables

To compare program participants who acquired a job during their program participation with those who did not, we selected variables found in our descriptive analyses and past research to predict competitive job placement: (a) site, (b) program year enrolled, (c) gender, (d) primary disability, (e) race/ethnicity, (f) special education services received (segregated or integrated with the mainstream curriculum), (g) receipt of supplemental security income (SSI), (h) any prior paid employment experience, (i) paid employment during the 6 months prior to program enrollment, and (j) median household income in the area in which they lived.

Site. For this study, we explored data from eight sites: Atlanta, Chicago, District of Columbia, Dallas, Los Angeles, Oakland (CA), Philadelphia, and San Francisco. Because the same employment representatives run the geographically proximal Oakland and San Francisco sites, we

combined data from both these sites into a single "San Francisco" site.

Program year. We defined program year as the traditional academic year.

Primary disability. In preface to introducing our rationale for defining new analytic categories from existing data, we concede that our categorization decisions about disability (and other predictors) can be justifiably challenged as somewhat arbitrary. We considered strategies commonly used in other prominent large-scale observational studies, especially federally sponsored national studies (e.g., NLTS-2), and distributions of category frequencies in the Bridges' study sample.

Bridges Program employment representatives recorded each participant's primary disability; 12 categories appeared in the data set. To avoid analyzing small cell sizes, we created five disability categories. Three of these five categories appeared as single categories in the program data set, accounting for about 90% of participants: *Category 1*: Learning Disabilities; *Category 2*: Intellectual Disabilities; and *Category 3*: Severe Emotional and Behavioral Disorders. We constructed *Category 4*, "Sensory Disorders," combining blindness, deafness, and speech/language impairments. In a residual *Category 5*, we combined all remaining disabilities: "orthopedic impairments," "chronic health impairments," "attention deficit hyperactivity disorder," "autism spectrum disorders," and a final residual subcategory of other very low prevalence disabilities.

Race/ethnicity. Employment representatives recorded participants' race/ethnicity into 1 of 11 categories from which we constructed 5 categories. *Category 1*, "Black," includes "Black" and "African American." We retained the next 3 categories specifically as they appeared in the data set: *Category 2*: "Hispanic/Latino"; *Category 3*: "White"; and *Category 4*: "Asian American." Into a residual *Category 5*, we combined the remaining low frequency racial/ethnic designations of "American Indian," "Alaskan Native," "Other," and "Chose Not to Disclose."

Special education services. Employment representatives recorded five types of educational services: (a) special education provided in "segregated" settings, (b) special education provided in "regular" settings, (c) services "integrated" into the daily curriculum, (d) services and materials situated in "resource rooms" associated with regular classrooms, and (e) no services specifically tailored to program participants' needs. As predictors of program job placement rates, we selected the two most intensive services provided to participants: special education services provided either in "segregated" or "regular" settings, analyzing each as separate predictors.

SSI. We recorded whether the student was a SSI beneficiary directly from the data set.

Prior paid employment. We defined this predictor as any gainful employment, competitive or not.

Paid employment during the 6 months prior to program enrollment. We distinguished this proximal measure of paid competitive employment to determine whether recently held jobs differentially predicted program job placement rates compared with any paid employment held at any time in a participants' past.

Median household income. We retrieved median household income from U.S. 2010 census data zip code look-ups (U.S. Bureau of the Census, 2010) representing program participants' residence. We defined four income categories to improve interpreting parameter estimates for other predictors: (a) less than US\$30,000; (b) US\$30,001 to US\$45,000; (c) US\$45,001 to US\$60,000; and (d) greater than US\$60,001.

Data Analytic Plan

Research Question 1: Which sociodemographic and disability characteristics, special educational placements, prior work history, household income, program site, and program year predict whether a Bridges Program participant with disabilities obtains a competitive job? Nine of the ten predictors and the outcome are categorical variables analyzed by chi-square statistics. Median household income, and secondary employment measures—starting wage rate and starting weekly hours—were analyzed with analysis of variance.

Research Question 2: Controlling for site, to what extent does gender, disability, ethnicity, and their two-way interactions, and median household income, predict Bridges Program job placement rates? Because program participants were clustered within seven sites, creating dependencies of observations on the dependent variable, job placement rates, we specified two-level generalized linear mixed models (GLMM), with grouping of participants within sites, using SAS PROC GLIMMIX. The dependent variable is defined as the probability of obtaining a job in the competitive labor market. The predictors (and their reference categories) in the regression models are (a) site (San Francisco), (b) program year enrolled (2011), (c) gender (male), (d) primary disability (learning disabilities), (e) race/ethnicity (White), and (f) household income (more than US\$60,000/year).

First, at Level 1, we regressed the binary primary outcome, competitive job placement, on-site. We assumed that

program sites are drawn at random from a population of potential sites, therefore specifying a random intercept for site, assuming it as normally distributed and independent of participant-level random variation. Because job placement rate is distributed as a binary response (i.e., Yes/No), we specified a logistic link function to linearize predictor coefficients. Residual variance is split into two components: (a) between-site component (i.e., variance of site-level residuals) and (b) within-site component (i.e., variance of participant-level residuals).

At Level 2, we undertook a model-building strategy to estimate changes in model fit with the progressive entry of predictors. We first regressed job placement on program site and, in a separate model, program enrollment year. Next, we regressed job placement, controlling for site, on to gender, disability, ethnicity, and median household income, taken one at a time. Finally, controlling for site, we tested the three two-way interactions of gender, disability, and ethnicity in a single model, and then tested their two-way interactions, in a following model. Because the proportion of missing data ranged from 20% to 35% for the predictors of special education services, history of prior employment, and SSI receipt, we did not test these predictors the GLMM models.

We fit the series of GLMM models using the maximum likelihood technique and optimized model fit with the Newton–Raphson approach. For comparing changes in model fit as we added predictors, we relied on the Bayesian Information Criterion (BIC), which penalizes entry of each additional predictor into models to enforce parsimony in model development and interpretation. Our sample sizes, which varied by predictor, ensured sufficient “events per variable”: that is, the proportion of the “lesser common of two possible events” (i.e., No) for job placement rates, divided by the number of predictors in progressive complex models, always exceeded the recommended minimum of 10, and usually exceeded 100.

Results

Bridges Program Participants Characteristics

Table 1 profiles the Bridges Program participants' characteristics for the seven sites aggregated over the past 6 years of operation ($n = 5,847$; 2006–2011). Los Angeles served the most participants ($n = 1,227$; 21.0%) and Dallas the fewest ($n = 373$, 6.4%), with the remaining five sites clustering between 600 and 1,000: Atlanta ($n = 1,097$; 18.8%), District of Columbia ($n = 977$; 16.7%), San Francisco ($n = 865$; 14.8%), Chicago ($n = 718$; 12.3%), and Philadelphia ($n = 590$; 10.1%).

Aggregated over sites, participants' average age was 18.6 years ($SD = 1.2$), and they were predominantly male

($n = 3,460$; 59.2%) and ethnic minority ($n = 5,378$; 92.0%, all participants; $n = 3,623$; 62.2% African American). The top three primary disability designations were learning disabilities ($n = 4,089$; 71.5%), intellectual disabilities ($n = 649$; 11.4%), and severe emotional and behavioral disorders ($n = 433$; 7.6%). Median household income derived from U.S. zip code look-ups by participant residence (US\$49,707) was consistent with the national U.S. average for 2010 (US\$51,914), although there was wide variation across Bridges sites.

Research Question 1

Which sociodemographic and disability characteristics, special educational placements, prior work history, household income, program site, and program year predict whether a Bridges Program participant with disabilities obtains a competitive job?

Job Placement Rates: Overall and by Site

Table 2 presents job placement rates as a function of site, and the a priori selected predictors. Aggregated across the seven sites and the six program years (2006 through 2011), participants' overall job placement rate is 77.2% ($n = 4,511$ of 5,847), a proportion considerably higher compared with the 68% rate reported by Fabian (2007) for program participants aggregated across the 5 years prior to the period of this study (2000–2005). Job placement rates exceeded 70% at all seven sites, ranging from a low at Chicago (71.6%) to a high at Dallas (85.5%). The mean hourly starting wage rate was US\$8.29 ($SD = US\1.51); by site, San Francisco posted the highest ($M = US\$9.52$, $SD = US\$1.60$), and Atlanta the lowest ($M = US\$7.46$, $SD = US\$1.63$) rates. Aggregated across site and year, the average starting weekly hours worked was 19.1 ($SD = 9.6$), indicating participants held half-time competitive jobs while in school.

Gender and Job Placement Rates

Aggregated across sites, job placement rates for female youth with disabilities was nearly 4.6% lower compared with their male peers (74.4% vs. 79.0%, respectively; Table 2). All seven sites manifested a gender disparity in job placement rates ranging from a high of 7.3% at Chicago (67.4% vs. 74.7%) to a low of 3.2% in the District of Columbia (76.8% vs. 80.0%).

Primary Disability and Job Placement Rates

Aggregated across all sites, job placement rates for participants designated with learning disabilities (78.4%, $n = 3,208$) exceeded those designated with intellectual disabilities (74.3%, $n = 482$), and with those with serious emotional and

behavioral disorders (73.4%, $n = 318$; Table 2). However, differences in job placement rates across sites varied considerably by disability category. Job placement rates for participants' with learning disabilities ranged from a low at Chicago (70.1%) to high at Atlanta and Dallas (81.5% and 86.2%, respectively). For intellectual disabilities, job placement rates ranged from a low at Los Angeles (63.8%) to high at Philadelphia and Dallas (80.0% and 83.3%, respectively). For severe emotional and behavioral disorders, job placement rates ranged from a low in the District of Columbia (68.0%) to high at Los Angeles and Dallas (79.6% and 85.2%, respectively).

Ethnicity and Job Placement Rates

Aggregated across all sites, job placement rates varied little among Black, Hispanic, and White participants (76.9%, 79.0%, and 77.1%, respectively).¹ However, by site, job placement rates varied by 15% between the highest and lowest: (a) Black participants (70.1% at Chicago vs. 79.7% and 83.3% in the District of Columbia and Dallas, respectively), (b) Hispanic participants (74.1% at Chicago vs. 85.0% and 89.3% at San Francisco and Dallas, respectively), and (c) White participants (71.2% in the District of Columbia vs. 85.5% and 85.7% at Chicago and Philadelphia, respectively).

Interaction of Gender, Disability, and Ethnicity, and Job Placement Rates

Aggregated across sites, job placement rates for female youth with disabilities were lower by nearly 5% to 9% across all disability designations compared with their male peers (learning disabilities, 4.8%; intellectual disabilities, 6.1%; emotional/behavioral conditions, 4.9%; sensory disabilities, 9.4%; and lower by 5% to 16% across all ethnicity categories except for White females (Black, 5.9%; Hispanic/Latino, 4.7%; Asian, 15.6%; White -4.9%; Other, 4.8%). In the Bridges Program sample, female youth with disabilities appear to be nearly universally disadvantaged compared with their male peers.

Program Year and Job Placement Rates

Table 3 presents job placement rates by site and by year. Aggregated across program year, job placement rates ranged from a low in 2009 (74.9%) to a high in 2011 (78.8%), a difference of 3.9%. However, across sites, we found considerable variation over the 6-year study period; differences between highest and lowest job placement rates ranged from a high of 28.0% at Chicago (53.4% in 2011 to 81.4% in 2008) to a low of 14.5% at Dallas (76.3% in 2006 to 90.8% in 2011).

Table 1. Bridges Program Participants' Characteristics by Site (N = 5,847).

Variable: n (%) ^a	Atlanta	Chicago	District of Columbia	Dallas	Los Angeles	Philadelphia	San Francisco	Total	χ^2	df	p
Age (N = 5,847)	1,097 (18.8)	718 (12.3)	977 (16.7)	373 (6.4)	1,227 (21.0)	590 (10.1)	865 (14.8)	5,847 (100.0)	635.15	6	<.0001
Female (N = 5,847)	18.4 (0.8)	18.6 (1.2)	18.7 (1.1)	18.7 (1.4)	18.8 (1.1)	18.2 (0.9)	18.3 (1.7)	18.6 (1.2)	F = 35.59	6,5840	<.0001
Primary disability (n = 5,718)	375 (34.2)	307 (42.8)	426 (43.6)	120 (32.2)	511 (41.6)	268 (45.4)	380 (43.9)	2,387 (40.8)	44.78	6	<.0001
Learning	693 (63.2)	388 (54.5)	686 (70.4)	276 (74.0)	971 (80.0)	492 (83.4)	583 (76.9)	4,089 (71.5)	465.74	24	<.0001
Intellectual	117 (10.7)	167 (23.5)	189 (19.4)	30 (8.0)	69 (5.7)	30 (5.1)	47 (6.2)	649 (11.4)			
Emotional/Behavioral	127 (11.6)	80 (11.2)	50 (5.1)	27 (7.2)	54 (4.4)	31 (5.2)	64 (8.4)	433 (7.6)			
Sensory	32 (2.9)	40 (5.6)	23 (2.4)	21 (5.6)	60 (4.9)	12 (2.0)	21 (2.8)	209 (3.7)			
Other	127 (11.6)	37 (5.2)	27 (2.8)	19 (5.1)	60 (4.9)	25 (4.2)	43 (5.7)	338 (5.9)			
Ethnicity (n = 5,828)									1,912.98	24	<.0001
Black	952 (86.9)	572 (79.8)	674 (69.4)	204 (54.8)	403 (32.9)	452 (76.9)	366 (42.6)	3,623 (62.2)			
Hispanic	33 (3.0)	54 (7.5)	228 (23.5)	131 (35.2)	672 (54.9)	70 (11.9)	206 (24.0)	1,394 (23.9)			
White	91 (8.3)	62 (8.6)	52 (5.4)	31 (8.3)	88 (7.2)	49 (8.3)	77 (9.0)	450 (7.7)			
Asian	3 (0.3)	11 (1.5)	3 (0.3)	1 (0.3)	11 (0.9)	5 (0.8)	132 (15.4)	166 (2.8)			
Other	16 (1.5)	18 (2.5)	14 (1.4)	5 (1.3)	51 (4.2)	12 (2.0)	79 (9.2)	195 (3.4)			
SSI (n = 4,686)	102 (11.1)	132 (21.4)	170 (21.6)	53 (16.5)	68 (8.5)	136 (24.6)	65 (9.5)	726 (15.5)	136.04	6	<.0001
Educational placement (n = 4,023) ^c											
Spec ed—Segreg (n = 359)	10 (1.2)	175 (33.5)	117 (16.7)	3 (1.1)	26 (4.0)	3 (0.6)	25 (4.6)	359 (8.9)	596.01	6	<.0001
Spec ed—reg (n = 1,619)	262 (31.0)	161 (30.8)	343 (49.0)	65 (24.6)	278 (42.5)	320 (64.1)	190 (35.2)	1,619 (40.2)	223.64	6	<.0001
Prior paid job (N = 5,847)	181 (16.5)	329 (45.8)	199 (20.4)	144 (38.6)	145 (11.8)	152 (25.8)	315 (36.4)	1,465 (25.1)	429.68	6	<.0001
Job prior 6 months (n = 4,300)	64 (7.7)	51 (9.3)	78 (10.5)	36 (11.3)	57 (8.2)	123 (23.2)	103 (16.4)	512 (11.9)	105.34	6	<.0001
HH income (\$, median) (n = 5,531) ^d	52,770	41,124	63,225	44,240	48,172	34,273	73,882	49,707	F = 355.10	6,5524	<.0001

Note. SSI = supplemental security income; HH income = household income. Disability Other includes "orthopedic impairments," "chronic health impairments," "attention deficit hyperactivity disorder," "autism spectrum disorders," and a residual subcategory of very low frequency disabilities; Ethnicity Other includes "American Indian," "Native Alaskan," "multiracial," and "other"; Spec ed—Segreg = Segregated special education; Spec ed—Reg = Special education in regular school.

^aPercentage of Bridges Program participants enrolled at each site. ^bPercentage of participants meeting each criterion. ^cEducational placement settings not analyzed: Regular classrooms with either Resource rooms or In-class services; Placements without special services. ^dMedian household income retrieved from U.S. 2010 census data zip code look-ups representing program participants' residence.

Table 2. Bridges Program Participants' Job Placement Rates associated with Sample Characteristics by Site (n [%] = Worked) (N = 5,847).

Site n (%) ^a	District of Columbia					San Francisco					χ^2	df	p
	Atlanta	Chicago	Columbia	Dallas	Los Angeles	Philadelphia	Francisco	Total					
Variable: n (%) ^b	1,097 (18.8)	718 (12.3)	977 (16.7)	373 (6.4)	1,227 (21.0)	590 (10.1)	865 (14.8)	5,847 (100.0)	635.15	6	<.0001		
Job placement (n = 5,847)	872 (79.5)	514 (71.6)	768 (78.6)	319 (85.5)	896 (73.0)	461 (78.1)	681 (78.7)	4,511 (77.2)	45.42	6	<.0001		
Gender (N = 5,847)													
Male	585 (81.0)	307 (74.7)	441 (80.0)	219 (86.6)	540 (75.4)	258 (80.1)	385 (79.4)	2,735 (79.0)	21.30	6	.002		
Female	287 (76.5)	207 (67.4)	327 (76.8)	100 (83.3)	356 (69.7)	203 (75.8)	296 (77.9)	1,776 (74.4)	23.71	6	.001		
Primary disability (n = 5,718)													
Learning	565 (81.5)	272 (70.1)	551 (80.3)	238 (86.2)	727 (74.9)	386 (78.5)	469 (80.4)	3,208 (78.4)	39.92	6	<.0001		
Intellectual	88 (75.2)	120 (71.9)	148 (78.3)	25 (83.3)	44 (63.8)	24 (80.0)	33 (70.2)	482 (74.3)	8.37	6	.21		
Emotional/Behavioral	90 (70.9)	56 (70.0)	34 (68.0)	23 (85.2)	43 (79.6)	24 (77.4)	48 (75.0)	318 (73.4)	4.98	6	.55		
Sensory	26 (81.2)	33 (82.5)	18 (78.3)	17 (80.9)	40 (66.7)	10 (83.3)	17 (80.9)	161 (77.0)	5.30	6	.51		
Other	102 (80.3)	27 (73.0)	15 (55.6)	16 (84.2)	31 (51.7)	17 (68.0)	31 (72.1)	239 (70.7)	21.05	6	.002		
Ethnicity (n = 5,828)													
Black	759 (79.7)	401 (70.1)	537 (79.7)	171 (83.8)	286 (71.0)	345 (76.3)	287 (78.4)	2,786 (76.9)	36.11	6	<.0001		
Hispanic	27 (81.8)	40 (74.1)	180 (79.0)	117 (89.3)	504 (75.0)	58 (82.7)	175 (85.0)	1,101 (79.0)	20.84	6	.002		
White	70 (76.9)	53 (85.5)	37 (71.2)	25 (80.7)	62 (70.4)	42 (85.7)	58 (75.3)	347 (77.1)	8.13	6	.23		
Asian	3 (100.0)	6 (54.5)	2 (66.7)	1 (100.0)	7 (63.6)	4 (80.0)	97 (73.5)	120 (72.3)	3.96	6	.68		
Other	12 (75.0)	13 (72.2)	11 (78.6)	4 (80.0)	35 (68.6)	10 (83.3)	61 (77.2)	146 (74.9)	1.98	6	.92		
SSI (n = 726) ^c	79 (77.4)	98 (74.2)	122 (71.8)	42 (79.2)	46 (67.6)	102 (75.0)	49 (75.4)	538 (74.1)	3.40	6	.76		
Educational placement (n = 4,023) ^d													
Spec ed—Segreg (n = 359)	9 (90.0)	132 (75.4)	92 (78.6)	3 (100.0)	20 (76.9)	2 (66.7)	17 (68.0)	275 (76.6)	3.52	6	.74		
Spec ed—Reg (n = 1,619)	207 (79.0)	126 (78.3)	288 (84.0)	53 (81.5)	190 (68.4)	248 (77.5)	154 (81.0)	1,266 (78.2)	24.04	6	.0005		
Prior paid job (n=1,465) ^e	144 (79.6)	243 (73.9)	168 (84.4)	121 (84.0)	118 (81.4)	125 (82.2)	263 (83.5)	1,182 (80.7)	14.67	6	.023		
Job prior 6 months (n = 512) ^f	54 (84.4)	41 (80.4)	67 (85.9)	31 (86.1)	44 (77.2)	105 (85.4)	85 (81.7)	427 (82.5)	2.91	6	.82		
HH income (\$, median) (n = 5,627) ^g	52,247	41,124	63,225	44,240	48,172	34,273	68,856	53,650	F = 349.78	6,5620	<.0001		
Wage (\$, M, SD) n = 1,929	7.46 (1.63)	8.24 (1.59)	8.22 (1.15)	7.87 (1.12)	8.60 (1.63)	7.84 (2.04)	9.52 (1.60)	8.29 (1.51)	F = 56.90	6,1923	<.0001		

Note. SSI = supplemental security income; HH income = household income. Disability Other includes "orthopedic impairments," "chronic health impairments," "attention deficit hyperactivity disorder," "autism spectrum disorders," and a residual subcategory of very low frequency disabilities; Ethnicity Other includes "American Indian," "Native Alaskan," "multiracial," and "other"; Spec ed—Segreg = Segregated special education; Spec ed—Reg = Special education in regular school.

^aPercentage of Bridges Program participants enrolled at each site. ^bPercentage of participants meeting each criterion. ^cSSI (n = 4,686). ^dEducational placement settings not analyzed: Regular classrooms with either Resource rooms or In-class services; Placements without special services. ^ePrior paid job (N = 5,847). ^fJob prior 6 months (n = 4,300). ^gMedian household income retrieved from U.S. 2010 census data zip code look-ups representing program participants' residence.

Table 3. Bridges Program Participants' Job Placement Rates by Site by Year (n [%] = Worked) ($N = 5,847$).

	Atlanta	Chicago	District of Columbia	Dallas	Los Angeles	Philadelphia	San Francisco	Total	χ^2 (df)	p
Site n (%) ^a	1097 (18.8)	718 (12.3)	977 (16.7)	373 (6.4)	1,227 (21.0)	590 (10.1)	865 (14.8)	5,847 (100.0)		
All years (2006-2011)	872 (79.5)	514 (71.6)	768 (78.6)	319 (85.5)	896 (73.0)	461 (78.1)	681 (78.7)	4,511/5,847 (77.2)	45.42 (6)	<.0001
2006	198 (78.9)	86 (72.9)	154 (79.0)	29 (76.3)	118 (63.1)	93 (75.6)	97 (82.2)	775/1,030 (75.2)	21.50 (6)	.002
2007	143 (72.2)	98 (76.6)	139 (79.9)	64 (87.7)	167 (81.1)	76 (77.6)	96 (79.3)	783/998 (78.5)	9.64 (6)	0.14
2008	133 (80.6)	96 (81.4)	165 (85.9)	58 (81.7)	145 (71.8)	78 (69.0)	97 (77.0)	772/987 (78.2)	19.08 (6)	0.004
2009	142 (78.9)	94 (74.6)	114 (80.3)	53 (84.1)	128 (66.0)	72 (79.1)	107 (70.4)	710/948 (74.9)	17.28 (6)	0.008
2010	132 (78.1)	77 (70.0)	100 (84.8)	56 (88.9)	136 (71.6)	63 (84.0)	149 (75.6)	713/922 (77.3)	17.74 (6)	0.007
2011	124 (92.5)	63 (53.4)	96 (61.5)	59 (90.8)	202 (81.5)	79 (87.8)	135 (89.4)	758/962 (78.8)	109.67 (6)	<.0001
Highest–lowest rate ^b	20.3	28.0	24.4	14.5	18.4	18.8	19.0	3.9		

Note. Bolded values indicate job placement rates likely depressed by the Great Recession of 2008 and 2009.

^aPercentage of Bridges Program participants enrolled at each site. ^bHighest–lowest rate = difference between year of highest job placement rate from year of lowest job placement rate.

Prior to 2008, the national U.S. unemployment rate was fairly low, ranging from 5.0% in January 2008 to 7.3% at the end of 2008 (USBLS, 2012). As a result of the Great Recession, the national unemployment rate rose steeply to 9.3% in 2009, and 9.6% in 2010, before falling to 8.9% by the end of 2011 (USBLS).

During the severest interval of the recession in 2008 and 2009, unemployment trajectories varied enormously by region and state. For example, California's unemployment rate rose dramatically between January 1, 2008, and January 1, 2009, from 6.0% to 10.1% (USBLS, 2012). Similarly, at the two Bridges Program sites located in California (San Francisco and Los Angeles), participants' job placement rates decreased by approximately 6% during this 1-year interval (77.0%–70.4%, and 71.8%–66.0%, respectively), not recovering to pre-recession levels of 89.4% and 81.5%, respectively, until 2011. Chicago's job placement rates also dropped dramatically from a high in 2008 of 81.4% to a low of 53.4% in 2011. In June of 2008, the Illinois state unemployment rate was 6.3%, but by 2010, it had risen in excess of 10%, with little change through 2011.

Household Income and Job Placement Rates

Median household income by participants' location of residence, as defined by zip code, varied markedly across sites, ranging from a low at Chicago (US\$41,124) to a high at San Francisco (US\$68,856; Table 2). In 2010, the U.S. census reported the national median household income between 2006 and 2010 at US\$51,914 (U.S. Bureau of the Census, 2010).

SSI Receipt and Job Placement Rates

Because we have data for only 80.1% of the total sample ($n = 4,686$ of 5,847, Table 2), our estimates should be viewed as providing tentative qualitative context for interpreting other findings. Aggregated across site, 15.5% ($n = 726$ of 4,686) of Bridges Program participants reported

receipt of SSI. Of this 726, 74.1% ($n = 538$) obtained a competitive job.

Special Educational Placement and Job Placement Rates

We have data for only 68.8% of the total sample ($n = 4,023$ of 5,847; Table 2). Aggregated across site, 8.9% ($n = 359$ of 4,023) of Bridges Program participants received special education services in segregated settings, of whom 76.6% ($n = 275$ of 359) obtained a competitive job. A higher percentage of participants received special education in regular settings (40.2%, $n = 1,619$ of 4,023), of whom 78.2% ($n = 1,266$ of 1,619) obtained a competitive job.

Prior Work Experience and Job Placement Rates

Aggregated across site, job placement rates differed little between participants with any prior paid experience (80.7%, $n = 1,182$ of 1,465) compared with those without (76.0%, $n = 3,329$ of 4,382; Table 2). Aggregated across site, job placement rates differed little between participants with paid competitive jobs in the 6 months prior to enrollment (82.5%, $n = 427$ of 512) compared with those without (78.1%, $n = 2,957$ of 3,788); however, job placement rates for this subgroup were the highest.

Research Question 2

Controlling for site, to what extent does gender, disability, ethnicity, and their two-way interactions, and median household income, predict Bridges Program job placement rates?

Predicting Job Placement Rates From Sociodemographic and Disability Characteristics

Because all the generalized linear mixed models we specified converged to solutions in which the variance of the

random effect for site was 0, we dropped the random effect for site and ran a series of seven two-level fixed effects models (Table 4). First, we estimated Model 1, a baseline model of job placement rates by program site (the Level-2 control variable) aggregated over the 6 program years of operation from 2006 to 2011. With San Francisco defined as the reference category (job placement rate of 78.7%), we obtained statistically significant differences for three of seven sites: a 60% higher job placement rate in Dallas (85.5%, odds ratio [OR] = 1.60, 95% confidence interval [CI] = [1.15, 2.22]), a 32% lower job placement rate for Chicago (71.6%, OR = 0.68, 95% CI = [0.54, 0.86]), and a 27% lower job placement rate for Los Angeles (73.0%, OR = 0.73, 95% CI = [0.60, 0.90]).

Second, we estimated Model 2, another baseline model of job placement rates by program year of operation aggregated across the seven program sites. With 2011 defined as the reference category (job placement rate of 78.8%), we found a 20% lower job placement rate in 2009 (74.9%, OR = 0.80, 95% CI = [0.65, 0.99]), corresponding to the year of the weakest labor market environment caused by the "Great Recession" of 2008 and 2009 (USBLS, 2012).

The following set of four models controlled for site at Level 2; all ORs reported are therefore adjusted for site (adjusted odds ratio [AOR]). Models 3 through 6 tested effects of gender, disability, ethnicity, and median household income, on job placement rates, respectively, in individual models (Table 4). In Model 3, for female youth with disabilities, job placement rates were 22% lower compared with their male peers (74.4% vs. 79.0%, respectively, AOR = 0.78, 95% CI = [0.69, 0.88]). In Model 4, compared with participants with learning disabilities (78.4%), job placement rates for participants with intellectual disabilities were 19% lower (74.3%, AOR = 0.81, 95% CI = [0.66, 0.98]) and 26% lower for participants with serious emotional and behavioral disorders (73.4%, AOR = 0.74, 95% CI = [0.59, 0.94]). Job placement rates for ethnicity (Model 5) and median household income (Model 6) did not differ from each other.

In Model 7, in tests for subgroups defined by gender, disability, and ethnicity, controlling for site, only one subgroup (female participants) predicted job placement. They were 23% less likely than their male peers to obtain a competitive job (AOR = 0.77, 95% CI = [0.68, 0.88]). Additional model estimates of two-way interactions for sociodemographic and disability characteristics were not statistically significant.

Discussion

The broad purpose of this evaluation study was to explore the effect of location and time on job placement outcomes of youth with disabilities participating in a national standardized vocational intervention. Specifically, we were able to examine how local economic conditions brought about by the Great Recession affected employment of youth with disabilities, including its differential effects by specific

demographic and disability statuses. In this way, this study contributes to the vocational transition research by presenting both a cross-sectional and longitudinal perspective on programmatic transition employment outcomes, a perspective largely lacking in the field.

Although the majority of students with disabilities in the United States do not have access to vocational interventions similar to those offered by the Bridges Program, it is apparent that they can benefit from these programs when they are available. The 77.2% job placement rate for this sample of predominantly minority youth substantially exceeds rates reported in other studies of employment during high school for older adolescents with disabilities. For example, a report from NLTS-2 (Wagner et al., 2003) indicated that, overall, 39% of youth 17 years old and above reported having a paid competitive job in the community while they were in school, but only 13.6% of African American youth and only 9.8% of Hispanic youth were competitively employed during high school. Although the efficacy of Bridges-type vocational interventions in improving access to regular paid competitive employment for minority youth with disabilities is clear, the extent to which these school-based interventions endure after school exit remains a vital issue to explore.

While the job placement rate is an important outcome indicator of the success of Bridges program, this rate has other significant ramifications. One is that the majority of special education youth do not report any type of engagement in paid competitive work experience during high school (Carter et al., 2011; Carter et al., 2012; Shandra & Hogan, 2008), even though it has been identified as one of the most robust predictors of postschool employment outcome. Many researchers and policy makers have called for broader access to paid employment during school (Luecking, 2009; Rusch, Hughes, Agran, Martin, & Johnson, 2009), and although there is little evidence that this is occurring, it is clear that when jobs are offered, youth with disabilities can work.

The second issue, related to the first and discussed by Carter et al. (2012), is to encourage school districts to emphasize paid competitive jobs in their use of federal vocational education funds, such as Carl D. Perkins federal funding. Other studies of the Bridges Program (Fabian, 2007; Luecking & Fabian, 2000) found that having a paid competitive job during high school was the strongest predictor of postschool jobs for this population. The current study, with its evidence of the high probability of predominantly minority youth being able to secure jobs with assistance, solidifies the basis for persuading school systems to apply resources to support "real" jobs in the community for youth with disabilities.

While the global placement rate across years and sites was quite high for this sample of Bridges participants (between 70% and 85%), it is important to note the nearly universal gender disparity in job placement rates between young women and men with disabilities. Overall, across all

Table 4. Predicting Bridges Program Participants' Job Placement Rates From Site, Program Year, and Sociodemographic and Disability Characteristics (N = 5,847).

Model	Variable	b (se)	t	p	OR ^a	95% CI	t/F	df	p	BIC
1	Site						7.46	6, 5840	<.0001	6,300
	Intercept	1.31 (0.08)	15.75	<.0001						
	Atlanta	0.04 (0.11)	0.41	.68	1.05	[0.84, 1.30]				
	Chicago	-0.38 (0.12)	-3.28	.001	0.68	[0.54, 0.86]				
	District of Columbia	-0.01 (0.11)	-0.06	.95	0.99	[0.79, 1.24]				
	Dallas	0.47 (0.17)	2.77	.006	1.60	[1.15, 2.22]				
	Los Angeles	-0.31 (0.10)	-2.98	.003	0.73	[0.60, 0.90]				
	Philadelphia	-0.04 (0.13)	-0.27	.79	0.97	[0.75, 1.24]				
San Francisco (Reference)	1.00									
2	Program year						1.59	5, 5841	0.16	6,329
	Intercept	1.31 (0.08)	16.64	<.0001						
	2006	-0.20 (0.11)	-1.88	0.06	0.82	[0.66, 1.01]				
	2007	-0.02 (0.11)	-0.18	0.86	0.98	[0.79, 1.22]				
	2008	-0.03 (0.11)	-0.31	0.76	0.97	[0.78, 1.20]				
	2009	-0.22 (0.11)	-2.02	0.044	0.80	[0.65, 0.99]				
	2010	-0.08 (0.11)	-0.77	0.44	0.92	[0.74, 1.14]				
	2011 (reference)	1.00								
3	Gender/(Male [Reference])	1.00					15.14 ^c	1, 5839	.0001	6,293
	Intercept	1.42 (0.09)	16.07	<.0001						
	Site ^b						7.15 ^c	6, 5839	<.0001	
4	Female	-0.25 (0.06)	-3.89	.0001	0.78	[0.69, 0.88]				
	Disability/(Learning [Reference])	1.00					4.79 ^c	4, 5707	.001	6,184
	Intercept	1.39 (0.09)	15.24	<.0001						
	Site ^b						7.84 ^c	6, 5707	<.0001	
	Intellectual	-0.22 (0.10)	-2.14	.032	0.81	[0.66, 0.98]				
	Emotional/Behavioral	-0.30 (0.12)	-2.53	.011	0.74	[0.59, 0.94]				
5	Sensory	-0.04 (0.17)	-0.26	.79	0.96	[0.68, 1.34]				
	Other	-0.45 (0.13)	-3.51	.001	0.64	[0.50, 0.82]				
	Ethnicity/(White [Reference])	1.00					2.88 ^c	4, 5817	.022	6,292
	Intercept	1.25 (0.18)	7.08	<.0001						
	Site ^b						8.71 ^c	4, 5817	<.0001	
	Asian	0.06 (0.17)	0.36	.72	1.06	[0.76, 1.50]				
6	Black	0.30 (0.18)	1.64	.10	1.34	[0.94, 1.92]				
	Hispanic/Latino	0.10 (0.20)	0.49	.62	1.10	[0.74, 1.64]				
	Other	-0.23 (0.24)	-0.95	.34	0.79	[0.49, 1.28]				
	Household Income/(> 60,001 [RC])	1.00					1.40 ^c	3, 5796	.24	6,235
	Intercept	1.32 (0.08)	15.51	<.0001						
7	Site ^b						7.42 ^c	6, 5796	<.0001	
	< 30,000	-0.19 (0.12)	-1.63	.10	0.82	[0.65, 1.04]				
	30,001-45,000	-0.08 (0.09)	-0.86	.39	0.93	[0.78, 1.10]				
	45,001-60,000	0.02 (0.10)	0.26	.79	1.02	[0.85, 1.24]				
	Gender, Disability, Ethnicity									6,175
Intercept	1.47 (0.19)	7.93	<.0001							
Site ^b						8.59 ^c	6, 5685	<.0001		
Gender/Male (RC)	-0.26 (0.06)	-4.03	<.0001	0.77	[0.68, 0.88]	16.23 ^c	1, 5685	<.0001		
Disability/Learning (RC)						4.31 ^c	4, 5685	.002		
Intellectual	-0.19 (0.10)	-1.84	.06	0.83	[0.68, 1.01]					
Emotional/Behavioral	-0.29 (0.12)	-2.43	.015	0.75	[0.60, 0.95]					
Sensory	-0.04 (0.17)	-0.26	.79	0.96	[0.68, 1.34]					
Other	-0.44 (0.13)	-3.41	.001	0.64	[0.50, 0.83]					
Ethnicity/White (RC)						2.23 ^c	4, 5685	.06		
Asian	0.04 (0.18)	0.24	.81	1.04	[0.74, 1.48]					
Black	0.23 (0.19)	1.25	.21	1.26	[0.88, 1.81]					
Hispanic/Latino	0.10 (0.21)	0.47	.64	1.10	[0.74, 1.65]					
Other	-0.30 (0.25)	-1.19	.23	0.74	[0.45, 1.21]					

Note. OR = odds ratio; AOR = adjusted odds ratio; CI = confidence intervals; RC = reference category; BIC = Bayesian Information Criterion, a measure of model fit—lower numbers for each subsequent model indicate improved fit.

^aORs for Models 3 through 7 are adjusted for site. ^bSite: parameter estimates, ORs, and CIs are computed, but to conserve space only the overall model solution is presented. ^cSolution for each variable in Models specifying site as the control variable.

sites, young women with disabilities were 4.6% less likely to get a job compared with their male peers. Concerning disability designation and ethnic category, young women were 4.8% and 4.8%, respectively, less likely to get a job compared with young men, and except for White ethnicity were universally trailing young men between 4.7% and 9.5%. Not surprisingly, these data are consistent with special education outcome data for youth. For example, in a report on employment engagement during school for students with disabilities, Wagner et al. (2003) reported that 56% of males in the same age cohort as the Bridges participants worked at some point during the year compared with 49% of females. However, while statistically significant, the highest gender disparity of 7.3% at Chicago does not yield a placement rate lower than 67.4% for females, which is still quite high compared with other reports.

The fact that job placement rates differed little across primary disabilities further supports the Bridges model's cross-categorical applicability. It also provides support for the expectation that employment success can be presumed regardless of disability label. This has important implications for transition programming and youth disability employment programs, the most notable of which is that work opportunities provide universally valuable foundations for postschool employment and careers. In addition, it was found that the more proximate previous work experiences were for Bridges program participants, the more likely they succeeded in Bridges. In other words, it appears that work experiences should be provided early and often, so that successive experiences enable youth to continually develop the skills and behaviors that enable them to succeed in the workplace.

However, there were some notable differences in the success of youth with certain disabilities across sites. For example, youth with intellectual disabilities fared better in Philadelphia and Dallas (80.0% vs. 80.3%, respectively) than they did in Los Angeles (63.8%), whereas youth with emotional disabilities fared best in Dallas (85.2%), but not as well in the District of Columbia (68.0%). It is unknown whether the reasons for these differences may be attributed to differential referral processes, to staff training and skill sets of site staff that favor one type of disability over another, or to the availability or partnership with ancillary support services in one site but not others.

Another interesting finding was the implied effect of the broader economic context on the employment patterns of youth with disabilities. Obviously, the U.S. Great Recession took its toll on overall youth employment, with the USBLS indicating a 22% unemployment rate for youth without disabilities between ages 16 and 19 from 2008 through 2009, and a 33.4% unemployment rate for the same cohort of youth with disabilities (Fogg & Harrington, 2010). We note these are national unemployment; in contrast, we examined

the association of local unemployment rates with placement rates of the Bridges sample.

In general, and not surprisingly, we found a pattern indicating lower placement rates consistent with higher local unemployment rates for this sample. However, it is the long-term impact of the effect on the lives of these youth that is most distressing to consider. As indicated earlier, paid employment is among the single most potent predictors of positive postschool outcomes for youth with disabilities; thus, decreasing job placement rates during high school will likely continue to depress the likelihood of employment after school and beyond. Given the overall depressed labor market participation of working age adults with disabilities, the effect of the national sustained depression in labor force participation will take a huge toll on youth with disabilities who are just entering the job market after high school. This is particularly critical as other factors contribute to decreasing employment rates for people with disabilities, such as lower rates of high school completion and postsecondary engagement compared with their non-disabled peers (Newman et al., 2011).

Limitations

The Bridges Program offers vocational interventions and employment opportunities applicable to youth with diverse disabilities. However, we point out several study limitations. First, the proportionate representation of youth with various disabilities in the Bridges Program does not map on to the general population of youth receiving special education services. In the Bridges Program, 78.4% of youth carry a primary disability designation of learning disabilities, which exceeds national estimates of the proportion of learning disabilities in the youth population with developmental and other disabilities by about 20% (Individuals With Disabilities Education Improvement Act, 2010). Because our sample does not fully represent the population of youth receiving special education services, we must restrain our inferences about program success largely to the characteristics of our sample.

Second, local school-based personnel refer most of the youth who enroll into the Bridges Program. We do not know the criteria by which school staff select and refer students to the program. Because the program does not serve the entire universe of students of eligible age from any of the seven sites, the students might not represent the full spectrum of disabilities, their severity, levels of service need, and motivation to pursue competitive employment, as may be the case in other school-based special education programs. It is also unknown whether those students not referred to Bridges have access to other available services, and therefore not in need of Bridges Program services. However, the Bridges Program sample does serve a subset of high-risk youth with

disabilities. Evidence of their program success supports the following recommendations for practice.

Implications for Practice

These findings strongly reinforce the need for school systems to increase their efforts and use available resources to support paid competitive employment for youth with disabilities. Although career education and training are important services offered under the Carl D. Perkins Act (2006), youth with disabilities can benefit from paid employment experiences, and the effects of these experiences will endure after the student graduates from high school. Research on disability and employment has repeatedly shown that the longer an individual remains out of the labor market, the less likely he or she is to return to work (e.g., Kraus, Frank, Dasinger, Sullivan, & Sinclair, 2001; Young, 2010). It follows that the earlier that work opportunities are offered, the more likely it is that youth with disabilities will exit school with a job, or at least relevant experience to increase their chances of getting one.

Where it is impractical for schools to provide the intensity of vocational intervention represented by Bridges, it follows from this recommendation that earlier referrals to vocational rehabilitation and other community employment related services that support work opportunities, prior to the students' exiting school, would contribute to postschool employment outcomes. State vocational rehabilitation agencies that have strong school-to-work transition policies and practices in place are more likely to assist students achieve early referral and a more seamless transition to posthigh school engagement in the workforce. Involving local mental health and developmental disabilities services prior to school exit for eligible students would similarly support the likelihood of postschool employment (Certo et al., 2008; Luecking & Wittenberg, 2009).

It is also important to note that targeted opportunities for at-risk youth with disabilities, minorities, and women can yield significant outcomes. Employment options for at-risk youth can be limited by community, family, and school factors; but it is clear from the Bridges Program that intensive vocational efforts at least a year or two prior to school exit substantially increases the likelihood of these youth acquiring jobs during school and improves the probability of employment after school. In fact, vocational interventions such as the Bridges Program have the potential to mitigate factors that ordinarily would impede student postschool employment success. In other words, regardless of socioeconomic factors, varying generic employment rates across communities, degree of family support, or type of available special education service model, there is a high likelihood that paid-work opportunities supported by education or rehabilitation professionals will produce favorable adult employment results. Career interventions designed to expose

youth to work during the early years of secondary school could then be complemented with more intensive competitive employment interventions implemented later in the youth's academic career.

Finally, this study not only reinforces the growing evidence of the value of paid-work experience as an important element of youth transition services but also provides support to the notion of presumed employability that has been a cornerstone of recent disability employment advocacy and policy (Martinez, in press). That is, disability label, socioeconomic status, gender, ethnicity, or community economic circumstances need not be determinants of eventual employment success. Although the Bridges sample we analyzed reflected variations in placement outcomes, the program's participants nevertheless achieved a universally high placement success rate across demographic category, and across locations where the national economic downturn had variable impact. The experience of the Bridges program offers evidence that career preparation and transition services for youth with disabilities can start with the presumption that all youth have the potential to succeed in employment.

Conclusion

Study findings illuminate and update our previous studies on the Bridges Program (Fabian, 2007; Luecking & Fabian, 2000). Despite study limitations, we found universally high job placement rates for a large sample of youth with disabilities enrolled in high school over several recent years of operation (2006–2011) across their sociodemographic and disability characteristics, and across diverse urban areas throughout the United States. Thus, we argue that educational, disability, and rehabilitation professionals should hold high expectations for employment success of these youth, regardless of their disabilities, and the local economic conditions of the communities in which they live.

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Note

1. Frequency and rates for Asian American and "Other" students are too small to make valid comparisons with the other ethnic groups.

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