

# Postsecondary Education Employment and Independent Living Outcomes of Persons with Autism and Intellectual Disability

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## **Abstract**

The aim of this study is to report employment and independent living outcomes of 125 graduates from the Taft College Transition to Independent Living (TIL) program. The TIL program has served students with intellectual and developmental disabilities, including autism spectrum disorder, since 1995. The TIL program follows graduates from the time of commencement for a period of ten years. The follow-up includes a comprehensive survey of employment and independent living status, social participation, and personal development and growth. Graduates from the classes of 2000 to 2010 reported rates of employment, monthly income, living arrangements, and use of transportation options. The findings of this study suggest that graduates of the TIL program had employment and independent living outcomes that exceeded rates observed in the general population of persons with intellectual and developmental disabilities (ID/DD). However, the authors caution that the candidates admitted to the program were likely more motivated and prepared than their peers in the general population of persons with ID/DD. Further research that includes matched cohorts and well-designed treatment and control studies is needed to show if and how effective transition programs are in preparing students with ID/DD for employment and community living.

*Keywords: Intellectual disabilities, autism, postsecondary education, transition, employment, independent living*

The Higher Education Opportunity Act of 2008 (HEOA; PL 110-315) helps colleges and universities create or expand inclusive model transition programs for students with intellectual disabilities (ID). These programs are intended to promote access to postsecondary education (PSE) and supports that lead to academic enrichment, social and independent living skills, self-advocacy, and employment and career skills for a population traditionally underserved and underrepresented in PSE. The HEOA also allows students with ID to qualify for Pell Grants, Supplemental Educational Opportunity Grants, and the Federal Work Study Program. While the legislative intent of the HEOA is clear, its effects on colleges and universities and the outcomes

associated with PSE for students with ID need to be examined. Among questions raised about such programs are: What benefits do students (and parents) derive from participating in such transition programs? What is the best way to structure such programs to achieve positive outcomes for students? What investments need to be made to develop high quality comprehensive transition programs for students with ID?

There are very few studies that have addressed these questions (Thoma et al., 2012). Transition programs vary in purpose and content (McEathron & Beuhring, 2011; Research and Rehabilitation Training Center on Community Living, 2013), and have experienced turnover, with some programs closing and others

starting anew. Little is known about what happens to students who participated in these programs (Thoma et al., 2011; McEathron & Beuhring, 2011). In particular, do these students indeed have better employment outcomes than their peers who did not go on to PSE? Are they more likely to live independently?

This study examines the employment and independent living outcomes of 125 graduates from a transition program that was established in 1995, the Taft College Transition to Independent Living (TIL) program. In 2009 the U.S. Department of Education selected the TIL program for funding as one of 27 Model Comprehensive Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID).

Of nearly three million persons ages 16 to 24 who completed high school or passed the General Education Development (GED) exam in the United States in 2009, 70% went on to PSE programs (U.S. Department of Commerce, Census Bureau, 2012). Reasons for enrolling and completing college are compelling. They include a greater likelihood to obtain employment, build a career, and earn a higher income compared to persons who do not have a college education (Baum & Ma, 2007; Mischel, Bernstein, & Allegretto, 2007; U.S. Department of Labor, Bureau of Labor Statistics, 2013). Higher education is associated with better health and longevity, higher levels of quality of life and happiness, and greater participation in communal, civic, and democratic institutions (McMahon, 2009). College students forge significant and sometimes lifelong relationships with their peers (Evans, Forney, Guido, Patton & Renn, 2009), develop a sense of responsibility and self-reliance (Carnevale, 2008), and learn to become adults who must live independently in an increasingly complex world (Arnett, 2004).

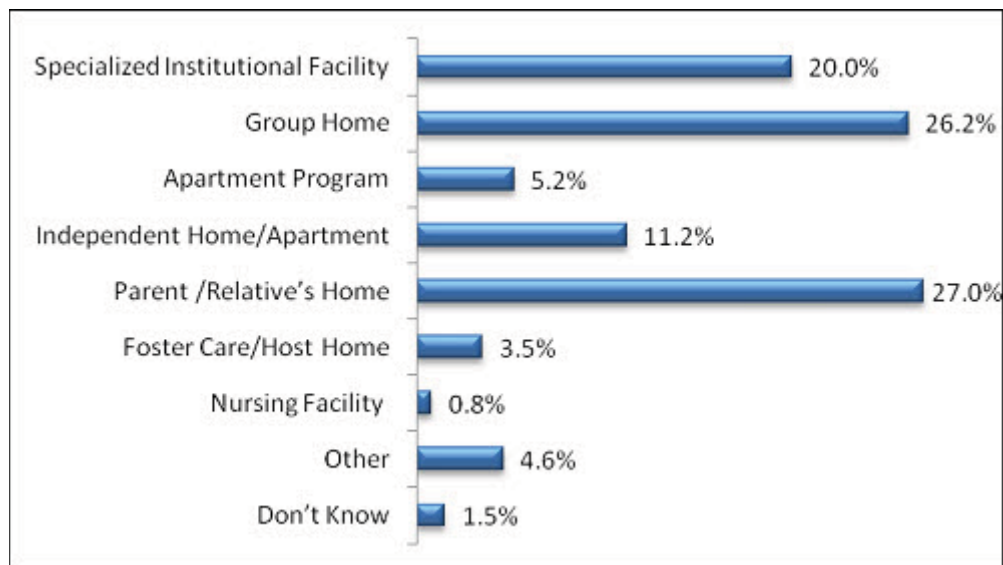
Young persons with disabilities and particularly those with ID and developmental disabilities (DD) lag behind in college admission rates and do not benefit from higher education to the same extent as their peers without disabilities. In 2008, nearly 2.1 million students with disabilities (about 11% of a total of 19.2 million) attended college or university (U.S. Department of Education, National Center for Education Statistics, 2009). Only about 10% of those who successfully completed a standard four-year college program with a degree were students with disabilities (U.S. Department of Education, National Center for Education Statistics, 2012). In contrast, while no precise estimates of the number of students with ID

exist, about 30,000 students with ID graduated with a diploma or certificate in the United States in 2011 (IDEA Data, 2013). According to estimates from the National Longitudinal Transition Study 2 (NLTS-2) 29% of students with ID go on to some type of PSE (Newman et al., 2011). In the broadest sense of the term PSE includes any type of formal training or instruction after high school in academic, job skills, or life skills related subjects. Most PSE programs for students with ID listed in the Think College data base last for a duration of two years or less (Think College, 2013). This limits the length of time students with ID spent in PSE as well as their number. Accordingly, we estimate that at present the number of students with ID in PSE is around 20,000 or about 0.1% of the total student population.

A review of past research showed that students with ID/DD are not only least likely to participate in PSE but they also experience the most dismal post-school outcomes (Thoma et al., 2011; Wagner et al., 2005). Compared with persons of similar age, persons with ID/DD are least likely to be employed competitively and, if they are employed they earn less, work in low skill jobs, experience higher rates of poverty, and have fewer employee benefits (Stodden & Dowrick, 2000; U. S. Senate Committee for Health, Education, Labor and Pensions, 2011; Wagner, Cameto & Newman, 2003). In 2010, persons with cognitive disabilities participated in the work force at a rate of 22.8% (Butterworth et al., 2012). Migliore, Mank, Grossi, and Rogan (2007) found that 76% of persons with ID who worked were employed in facility-based programs or sheltered workshops. Only about 150,000 persons with ID work in community-based settings outside the sheltered work environment (President's Committee on Persons with Intellectual Disabilities, 2009).

The right to live independently in one's community of birth or choice is one of the core principles in the Americans with Disabilities Act of 1990 (ADA, P. L. 110-325) and the Supreme Court's Olmstead decision (Olmstead v. L. C., 1999). Compared to the past, fewer and fewer persons with ID/DD live in institutions but instead reside and receive services in the community (Braddock, 2011; Lakin, Larson, Salmi, & Webster, 2010). Figure 1 shows where persons with ID/DD lived who participated in the 2009-2010 National Core Indicator Survey and received formal ID/DD services (National Core Indicators, 2009; National Council on Disability, 2011).

Figure 1. Type of Residence (N = 11,429)



We can gather from Figure 1 that a small portion of persons with ID/DD live “on their own” (about 16%). Please note, however, that these individuals receive support from Medicare’s Home and Community Based Care Services (HCBS) waiver program and are likely to be more disabled. The majority of adults with ID in this group also do not participate in decisions that affect where and with whom they live, according to research conducted at the University of Minnesota (Stancliffe et al., 2011). The authors reported that those:

... with more support needs because of more severe ID and/or co-occurring conditions experienced less choice regarding living arrangements. Individuals living in their own home or an agency-operated apartment were more likely to choose where and with whom to live than individuals in nursing homes, institutions or group homes (p. 746).

To help persons with ID/DD develop the skills needed to live on their own a growing number of transition programs provide training and instruction in independent living skills. In some cases such programs offer a class or two at a community college whereas in other instances students with ID/DD go through a selective and formalized four-year program in a college or university. Think College is an organization that

tracks transition programs and maintains a searchable data base that contains descriptions of the programs’ particular features (Grigal & Hart, 2010). In addition, McEathron and Buehring (2011) studied more rigorously how postsecondary transition programs for students with ID are structured presently and what services they provide, and framed their findings by genotypes rather than phenotypes into a taxonomy designed specifically for characterizing such programs. In the following section we will present an example of a postsecondary transition program, the Taft College Transition to Independent Living (TIL) program, which offers instruction in all major aspects of independent living for students with ID.

### Program Description

West Kern Community College District (Taft College) began offering classes to students with ID in 1976. The first classes were taught off campus at a local ARC but were moved onto the main campus in 1978. At the time the curriculum consisted of basic academics, life skills, and paid work experience in jobs at Taft College. The college is located in a rural area of Central California with only two feeder high schools. The program’s capacity and size and a vendor agreement with the California Department of Developmental Services (DDS) gives qualified students from all parts

of California an opportunity to attend. The TIL program, as it is known today, formally began operations on August 1, 1995 with a class of 14 students.

Taft College provides on-campus housing for approximately 175 students. TIL students live on campus their freshman year and occupy 26 dormitory rooms. The students live in a single occupancy room with a bathroom they share with another TIL student. The TIL staff provide individualized instruction in functional areas in the student's dorm. The students are on a dorm meal plan and the cost of room and board is \$710 per month which is borne by the student. In their second year, the students move into 11 houses and duplexes in the community that the program either owns or leases. The students are responsible for all of their meals, rent, and other living expenses, and budget \$800 a month for these costs. Students occupy these off campus houses with TIL roommates and have no overnight adult supervision. The program contracts with a supportive living service agency to assist with meal planning, shopping and preparation, and other related household tasks. The off-campus students are responsible for transporting themselves to and from campus and work sites.

The TIL program offers students an environment that includes typical collegiate experiences. The curriculum consists of 36 individual classes which are all approved by the California Community College Chancellor's Office. Successful completion of this course of study culminates with the awarding of a Certificate of Completion. The TIL students participate in the Taft College commencement exercises and receive their diploma with their peers who are receiving their associate degrees or other certificates.

Class offerings include basic academic skills development (reading, writing, and algebra); self-advocacy skills (communication and public speaking, conflict resolution, personal planning, relationship building, personal safety, and self-determination); independent living skills (banking and personal finance, household safety, housekeeping, laundry, meal preparation, medication, mobility/travel, personal care, and shopping); career preparation (job skills assessments, interviews, resume building, timecards, work ethics, and paid internships); and transition planning (community research, community volunteer assistance, housing assistance, rehabilitation department referral, roommate options, and inter-agency transition meetings). In addition, TIL students are encouraged to enroll

in traditional college courses, and individual support and accommodations are provided.

The "college experience" is viewed as one of the most important aspects of the TIL program at Taft College. The students are members of the TC Associated Student Body and participate in most of the activities sponsored by that organization, such as an overnight excursion to a theme park. Taft College has a Best Buddies program with shared activities for TIL students and traditional students. TIL students attend cultural and athletic events on campus and interact with the traditional dorm students on a daily basis. They are recognized as an integral part of the culture of the institution.

Beginning in 2009, since its selection as a TPSID, the TIL program developed a system of individual supports for all of its students who are enrolled in traditional credit classes at Taft College. Accommodation specialists work with these students inside and outside of the classroom. Forty-four students participated in 118 classes over a period of three semesters. The type of courses taken include drama, psychology, early childhood education, art, management (customer service), math (basic and algebra), computer science (Word, Excel, Access), and keyboarding. Fifty three students received "A's"; 35 students received "B's"; 16 students received "C's"; five students received "D's"; six students received "F's"; two students withdrew; and one student was dropped by the instructor.

The second program implemented through the TPSID grant focuses on specific vocational skill development leading to higher skilled, higher paying jobs. This program is designed to be a "third year" for 10 TIL graduates. The participants live in off campus housing and are employed in student internships for 20 hours a week. They are compensated at the rate of \$13.25 per hour. The program partners with employers who provide these interns with challenging work assignments that will enhance their job skills, lead to a certificate, and provide a pathway to employment and career. At the time of this study twelve students completed the internship. Seven of these interns were employed, one was working as a volunteer, one went on to a community college to complete an advanced certificate, two were unemployed, and one had an unknown status.

The Taft College TIL program has operated for 18 years with stable and steady funding from the Department of Developmental Services. The Department, through the Regional Center system, funds student

participation at a rate of approximately \$33,000 each per year. This funding, the TPSID grant, and Community College apportionment, provide the program with an operating budget of about \$2.2 million dollars a year. The majority of expenditures are dedicated to staffing the program. All of the individuals who work in the TIL program are Taft College employees with the same pay and benefits as those of any other employee on campus. At the time of this study the TIL program employed two full-time tenure track faculty, five full-time managers, seven full-time employees, and 20 part-time employees.

The Taft College Center for Independent Living is in the final phase of constructing a state of the art facility that will contain administrative offices, classrooms shared with all of Taft College, cooking and laundry demonstration laboratories, and 32 independent living classrooms (student residences). It will house a curriculum development and teacher training program for a national and international audience. The 24,000 square foot facility, a \$16 million project, is funded through a state-wide Community College capital outlay bond, a municipal bond issue, and private donations.

### Research Questions

Our inquiry into the lives of 125 young men and women with ID was guided by wanting to know what happened to them after they graduated from Taft College's TIL program. Our research questions focused on their successes in building independent and self-sufficient lives in homes and communities of their choice. Were they able to find a job? Did they earn enough to pay for living expenses such as food and rent? How did they live? Were they able to get around, go to work, go to the store and shop, and visit family and friends? What did they do on their own? How much help and support did they need? To address these questions we examined data from the 2011 survey of TIL alumni who graduated between the years 2000 and 2010. Our primary focus was on their reported employment outcomes and independent living arrangements.

### Methods

Taft College conducts an annual survey of its graduates and follows them over a period of ten years. The data that provide the basis for this study were taken from the 2011 survey. The oldest cohort in this survey is the class of 2000 and the youngest cohort is the class

of 2010. Between the year 2000 and the year 2010 a total of 174 students graduated from the TIL program. While intense efforts were made through direct contact and social media to stay in touch with all graduates, 49 graduates (28% of the total) could not be traced, leaving 125 graduates in our pool of respondents. Each year, graduates are recruited for the survey through announcements on Facebook, telephone calls and voice messages, emails, and parental contact. If multiple attempts fail to reach a graduate he or she is dropped from the roster. Graduates who move out of state or live in group homes are not contacted. In addition, potential respondents who do not wish to be contacted or choose not to be interviewed are also removed from the list of survey participants. Agencies that provide services to graduates assist with Taft College's efforts to stay in contact, but all information obtained during the annual survey is given by the graduates directly; there were no proxy responses.

The admission criteria published by the College influence the selection of individuals who go through the program (Taft College, 2013). In sum, the applicant must (a) be at least 18 years of age; (b) meet California Department of Developmental Services (DDS) regional centers criteria; (c) be able to function without attendant care; (d) have completed a high school or learning resource program; (e) not have a current or chronic history of arrest or probation; (f) be exempt from current or chronic history of inflicting physical harm to him/herself or others; (g) be free of any medical condition that is communicable by casual contact; (h) have an income equivalent to SSI's minimum rate for independent living; (i) agree to attend and participate in the Taft College Career Education program and required classes; and (k) possess self-help skills and be able to safely function in his/her own dormitory without direct supervision during non-program hours. Regarding criterion (b), the DDS and its 22 regional centers determine service eligibility in Section 4512 of the California Welfare and Institutions Code (State of California, Department of Developmental Services, 2013) according to which a person must have a disability that begins before the person's 18th birthday, be expected to continue indefinitely, and present a substantial disability. The diagnosis and assessment of disability is performed by the regional centers.

An applicant who meets the requirements for entry will be scheduled for an on-site first interview. During the interview, applicants may be asked to demonstrate

their knowledge of various independent living skills such as: following directions, interpreting schedules, menu planning, and explaining a basic budget. The evaluation interview is necessary to assist the interview committee in determining whether the program would be an educationally appropriate and least restrictive environment for the applicant.

We present our findings as descriptive (univariate and bivariate) statistics. Non-parametric tests helped us detect statistically significant differences between groups, and linear regression using ordinary least squares permitted testing for significant multivariate relationships. All statistical calculations were performed with SPSS v. 19 (Gray & Kinnear, 2012; IBM, 2013).

## Findings

### Respondent Characteristics

Our group of respondents consisted of 70 males (56%) and 55 females (44%). Almost all received a certificate of completion from high school. Table 1 shows their ages and graduation dates. We did not ask specifically what impairment or disability diagnosis our respondents received in the past, but observations and statements by teachers, coaches, and program officials familiar with the students suggest that all applicants had mild or moderate intellectual disabilities, and that the proportion of students on the autism spectrum has been increasing steadily.

At follow-up, all respondents were living in the community and none were living in group homes or institutions. Three graduates were married, two had children. Nearly all respondents ( $n = 121$ ) obtained Social Security payments. The largest number received Social Security Supplemental Income or SSI ( $n = 111$  or 89%), followed by Social Security Disability Income or SSDI ( $n = 9$  or 7%) and an OASDI (Social Security) payment in one case. Four graduates did not qualify for benefits because their employment income exceeded the limits of eligibility. A small number of graduates ( $n = 15$  or 12%) reported obtaining support, mostly in form of money, from their parents, and 117 graduates received a small amount of independent living support (California State Supplementary Payment Program).

### Employment Status and Income

In 2011, 105 TIL graduates (84%) were employed for pay. Seven graduates (6%) volunteered or interned without pay, and 13 graduates (10%) were unemployed.

Of those who were employed 87 graduates (78%) worked or volunteered in an integrated, competitive work environment in the community; 80 graduates were paid at or above minimum wage; 23 graduates (21%) worked in a supported work setting; and 2 graduates (2%) worked in a sheltered work shop.

Respondents who were gainfully employed included 102 part-time workers and three full-time workers. Among those who volunteered or were employed part-time 11 (10%) worked 10 hours or less per week; 95 (85%) worked between 11 and 20 hours per week; and 3 (3%) worked between 21 and 30 hours per week. Three graduates worked in a second job. We did not detect any statistically significant differences between hours worked per week and gender, age, and year of graduation. Among the 13 respondents who were unemployed seven were actively looking for a job; two graduates were in the process of moving to another city; two graduates reported being unable to work because of health problems; one graduate was in school; and one graduate reported not being interested in working at that time.

Hourly wage rates of the 87 working respondents ranged from \$8 to \$15.05, with a mean of \$8.97 ( $SD = 1.55$ ). Eighteen graduates were paid below minimum wage. A dollar amount was not mentioned by these respondents with one exception: one graduate was paid \$7.00 per hour. To ensure consistency in coding he was classified as "paid below minimum wage," which in California was \$8.00 per hour at the time of the interview. One graduate received a sales commission that was also not specified in terms of a dollar amount. Accordingly, our calculations below are based on a number of 86 graduates reporting an hourly wage rate at or above minimum wage. We grouped the hourly wage rates into three categories (see Table 2) but did not include below minimum pay because no dollar amounts were reported. We then grouped the respondents' age into two categories and the years employed in the current job into three categories in order to obtain a sufficiently large number of observations for each cell in our crosstabs to test for statistically significant differences between subgroup characteristics.

There were no statistically significant differences in hourly wage rates between males and females. There were significant differences in hourly wage rates between respondents under age 30 and age 30 and older. The older respondents had higher hourly wages than the younger ones,  $\chi^2(2, N = 86) = 10.24, p = .006$ .

Table 1

*Respondent Year and Age of Graduation*

| Age Group            | Number | Percent |
|----------------------|--------|---------|
| 22-24 years          | 11     | 8.8     |
| 25-29 years          | 57     | 45.6    |
| 30-33 years          | 49     | 39.2    |
| 34-37 years          | 8      | 6.4     |
| <br>Graduation Group |        |         |
| 2000-2002            | 26     | 20.8    |
| 2003-2005            | 25     | 20.0    |
| 2006-2007            | 21     | 16.8    |
| 2008                 | 18     | 14.4    |
| 2009                 | 19     | 15.2    |
| 2010                 | 16     | 12.8    |
| Total                | 125    | 100.0   |

Similarly, the hourly wage rate differed significantly with the number of years respondents worked in their job,  $\chi^2(4, N = 86) = 10.77, p = .029$ , with higher rates paid to those with longer job tenure.

In multivariate regression,  $R^2 = .34, F(5, 99) = 10.33, p < .001$ , we observed a statistically significant association between monthly employment income and hourly wage rate,  $\beta = .46, t(98) = 5.31, p < .001$ , and between monthly employment income and hours worked per week,  $\beta = .28, t(98) = 3.37, p = .001$ , but gender, age, and job tenure were not found to be statistically significant covariates. In a separate analysis we did not find statistically significant differences in the number of hours worked per week by gender, age, and job tenure. The majority of those employed (73%) earned \$700 or less per month. Limits to employment income for those who receive Social Security benefits

due to relatively few hours worked, a fairly narrow range of hourly pay close to the minimum wage rate, and the small number of observations may explain the absence of statistically significant differences in monthly income measures by gender, age, and length of employment.

Each of the 125 respondents reported at least one form of monthly income which could be a Social Security payment (SSI, SSDI, or SSA), income from employment, or both: 121 respondents (97%) received a Social Security payment, 104 respondents (83%) reported income from employment, and 100 respondents (80%) received Social Security payments and pay checks from employers. Table 3 and Figure 2 below illustrate the relationship between monthly Social Security payments, monthly employment income, and combined monthly income. The majority

Table 2

*Respondent Age, Hourly Wage, and Number of Years in Current Job*

|                       | Number | Percent |
|-----------------------|--------|---------|
| Age Group             |        |         |
| 22-29 years           | 49     | 57.0    |
| 30-37 years           | 37     | 43.0    |
| Hourly wage           |        |         |
| \$8.00 (min. wage)    | 29     | 33.7    |
| \$8.01-\$9.00         | 33     | 38.4    |
| \$9.01 and over       | 24     | 27.9    |
| Years in current job  |        |         |
| Two years or under    | 30     | 34.9    |
| Between 2 and 5 years | 32     | 37.2    |
| Five years or over    | 24     | 27.9    |
| Total                 | 86     | 100     |

of TIL graduates (81%) received between \$500 and \$900 in Social Security benefits per month whereas the majority of TIL graduates (61%) earned \$700 or less per month from employment. Combined monthly income exceeded \$900 for 79% of the graduates. The highest monthly employment income reported by a TIL graduate was \$1,900.

Since the monthly income figures reported during the survey were obtained as responses to given intervals of \$100's, we employed a midpoint average for each interval and multiplied it by the number of entries for each interval. This way we were able to determine that TIL graduates received approximately \$700 per month on the average from Social Security benefits. Monthly employment income amounted to about \$600 on the average, and combined average monthly income approximated \$1,100 per graduate. Please note

that these estimates are based on a denominator of 125. Individual incomes vary in amount and number of graduates who reported receiving benefits, earned income, or both.

#### **Job Coaches, Job Benefits, and Job Satisfaction**

A number of TIL graduates who worked received job coaching (73%) and employment benefits (28%) that included paid sick leave (n = 9); health insurance (n = 18); union benefits (n = 7); paid vacation (n = 27); and work uniforms (n = 2). Among those who received assistance from a job coach, 41 respondents (53%) received job coaching on a daily basis; 23 respondents (30%) received job coaching weekly; and 13 respondents (17%) were coached about twice a month.

We detected no statistically significant differences between job coaching and gender, age, and

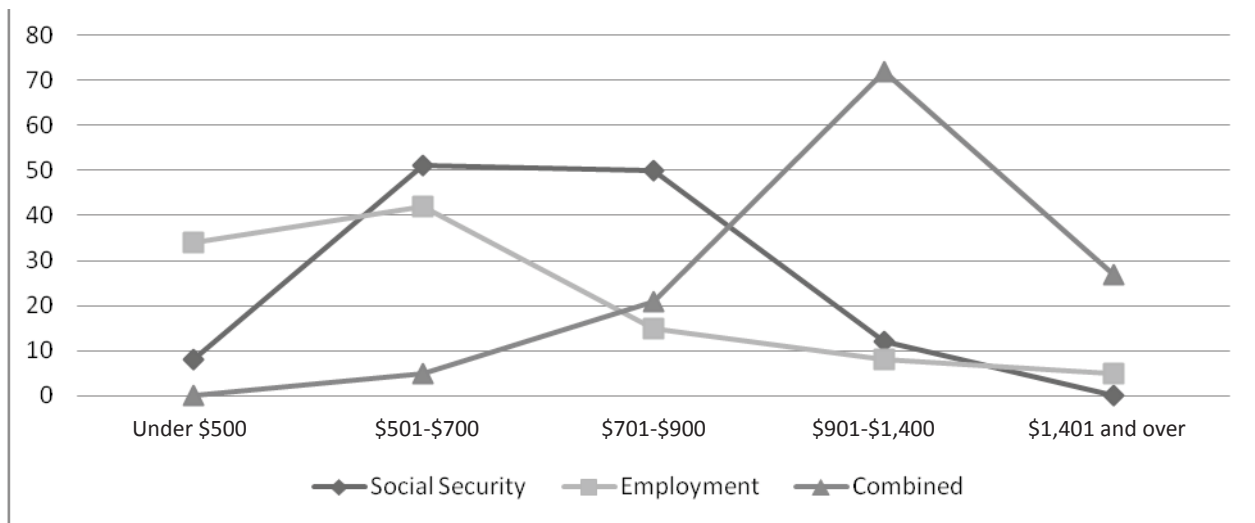


Table 3

*Summary of Monthly Social Security Payments, Employment Income, and Combined Income by Number of Recipients*

|  | Under \$500 | \$501-\$700 | \$701-\$900 | \$901-\$1,400 | \$1,401 and over | Total Number |
|--|-------------|-------------|-------------|---------------|------------------|--------------|
| Social Security payments only                          | 8           | 51          | 50          | 12            | 0                | 121          |
| Employment income only                                 | 34          | 42          | 15          | 8             | 5                | 104          |
| Combined Social Security payment and employment income | 0           | 5           | 21          | 72            | 27               | 125          |

Figure 2. Sources and Amounts of Monthly Income



length of employment. Also, job benefits did not vary by gender and age, but those with longer job tenure were more likely to receive benefits, a finding that was statistically significant,  $\chi^2(2, N = 112) = 7.34$ ,  $p = .025$ . Respondents working in paid and non-paid occupations reported being “happy” with their place of work in 57.6% of cases, being “satisfied” in 27.2% of cases, and “not happy” or “planning to quit” in 4.8% of cases. Job satisfaction did not differ significantly by gender, age, and length of employment, but it differed significantly by level of monthly employment income,  $\chi^2(6, N = 112) = 17.25$ ,  $p = .008$ , level of combined monthly income,  $\chi^2(4, N = 112) = 14.20$ ,  $p = .007$ , and benefits,  $\chi^2(2, N = 112) = 8.56$ ,  $p = .014$ . Of the six persons who reported being not happy or planning to quit, five worked in a supported employment setting and four were paid below the minimum wage rate.

### **Independent Living and Place of Residence**

As stated, all respondents lived in the community and in homes that they rented (83%), owned (3%), or that were owned by their parents (14%). Sixty seven graduates (54%) reported living alone; 35 graduates (28%) had one roommate, including three spouses; 13 graduates (10%) had two roommates; 3 graduates (2%) lived with three roommates each; and 7 others (6%) lived with their parents. One bedroom units counted as the most frequent form of accommodation (42%), followed by two bedroom apartments (21%), three bedroom homes (11%), and two bedroom condominiums or town houses (10%). The remaining number of units ( $n = 20$  or 16%) was divided between studios ( $n = 5$ ), two or four bedroom homes ( $n = 5$ ); three bedroom apartments ( $n = 4$ ) and three bedroom condominiums or townhomes ( $n = 4$ ), a one bedroom condominium, and a rented room. One data entry was missing. We detected no statistically significant differences between respondent gender or age and type of home or type of tenancy (own or rent). Combined monthly income level also had no significant statistical effect on the type of housing respondents occupied. However, the four graduates who owned their home had combined monthly incomes ranging from \$1,001 to over \$1,500.

Graduates who rented their home paid \$300 or less in 25 cases (24%); between \$300 and \$500 in 34 cases (33%); between \$501 and \$600 in 26 cases (25%); and more than \$600 in 19 cases (18%). We detected statistically significant differences in the amount of rent paid by age,  $\chi^2(3, N = 105) = 8.16$ ,  $p = .043$ , and by

combined monthly income,  $\chi^2(6, N = 105) = 16.03$ ,  $p = .014$ . In case of the former, younger graduates paid higher amounts of rent. In case of the latter, those with higher combined monthly incomes paid higher amounts of rent. There were no significant differences in the amount of rent paid by gender.

### **Housing Support and Independent Living Assistance**

A total of 48 graduates (38%) lived in supported housing, either for low income tenants (26 cases or 21%) or for Section 8 beneficiaries (22 cases or 18%). The only statistically significant difference we were able to detect was between age and Section 8 housing support,  $\chi^2(1, N = 105) = 10.48$ ,  $p = .001$ ; older graduates were more likely to live in homes subsidized with Section 8 housing vouchers.

One hundred twelve TIL graduates (90%) reported receiving Independent Living Services (ILS) assistance at the time of the interview (see Table 4). While we could not find significant differences in the number of hours of ILS assistance provided by gender, statistically significant differences in ILS hours provided to graduates differed by age,  $\chi^2(1, N = 112) = 5.30$ ,  $p = .021$ . Younger respondents received a higher number of ILS hours per month.

### **Transportation**

All 125 respondents reported having access to transportation at the time of the interview. The largest number ( $n = 117$  or 94%) used public transportation. The eight graduates who did not use the public transit system owned a car ( $n = 7$ ) or, in one case, used paratransit services. Five respondents reported using a personal vehicle as well as public transportation. Those who owned and used a car were male (11 out of 12 respondents); younger (eight out of 12 respondents); lived alone ( $n = 8$ ) or with a spouse or roommate ( $n = 4$ ); and had higher combined monthly incomes. All were employed, including two full-time employees out of a total of three. These car owners also received (or needed) fewer hours of independent living services, received or needed fewer hours of job coaching, and reported high levels of job satisfaction.

### **Banking, Shopping, and Meal Preparation**

The ability to manage money is an important indicator of living independently. With the exception of three graduates, all respondents had their own banking

accounts and were familiar with a wide range of banking services, including writing checks and using online banking. The three respondents who reported not having a banking account did not have any earnings from work and needed higher levels of independent living support, including help from their parents.

A second measure of living independently is the ability to go shopping and preparing one's meals. TIL graduates reported being able to shop or prepare meals independently in 22 cases (18%). Eighty five graduates (68%) reported needing a little help with shopping and meal preparation, and 18 graduates (14%) needed frequent assistance with these tasks. The relationship between needing assistance with shopping and meal preparation and a higher number of hours of ILS assistance is statistically significant,  $\chi^2(2, N = 125) = 8.93, p = .011$ . While we did not find significant differences between the ability to shop or prepare meals independently and gender, respondents under age 30 were more likely to report shopping or preparing meals independently,  $\chi^2(2, N = 125) = 14.87, p = .001$ . In addition, respondents who independently shopped or prepared meals were more likely to live alone whereas respondents who needed assistance with these tasks lived with parents or roommates.

### Discussion

Postsecondary education is associated with higher rates of employment and income for persons with and without disabilities. This finding also applies to persons with ID. Migliore and Butterworth (2008) showed that students with ID who participated in postsecondary education were employed after completing vocational rehabilitation programs in 48% of cases. Their average weekly earnings were \$316, compared to \$195 for those persons with ID who did not receive PSE. Not counting Social Security benefits, Taft TIL program graduates in integrated employment settings on the average earned less per week (about \$168). If benefits are included the average incomes for graduates who worked were nearly the same (about \$314 per week). The smaller earned income amounts among TIL graduates likely resulted from the absence of Vocational Rehabilitation (VR) services and placement into better paying jobs. Access to VR services for persons with ID is limited. According to Gilmore, Schuster, Zafft and Hart (2001), 7.2% of persons with more broadly defined cognitive disabilities receiving VR services had been in postsec-

ondary education, and a significant number of them had earned associate degrees, bachelor's degrees, or even graduate degrees. It is likely that the respondents in Butterworth and Migliore's study had higher levels of academic skills and aptitude that we were not able to control for in our study. However, we found that the TIL graduates' competitive employment rates with wages at or above minimum wage were much higher (64% vs. 48%). This finding might be attributable in part to the training and support TIL graduates received while attending the program and continue to receive after graduation.

Postsecondary education for students with ID is associated with improved independent living outcomes. There are a number of indicators that measure various aspects of independent living. In our study we chose living independently in one's own home or apartment and paying rent or a mortgage as our primary indicator. Regrettably, there are few quantitative studies that show how many persons with ID live on their own, with a spouse, or with roommates. Those that are available do not always allow direct comparisons with our study. For example, Larson, Doljanac, and Lakin (2005) reported that 84% of persons with ID/DD live with parents or family members. This estimate includes children. The remaining 16% live either independently or with supervision. The National Council on Disability report (2011) on community living showed that about 16% of respondents to the NCI survey live in their own home or apartment, or in an apartment program. The survey sample, however, includes only ID/DD service recipients. In our study, 94% of TIL graduates lived alone or with spouse or roommates in an apartment of home that they rented or owned.

One measure of success of any college graduate is his or her ability to become financially independent. Our findings show that 88% of the TIL graduates paid for their living expenses with their earnings and/or income support payments and managed their own finances. Nearly all graduates knew how to use public transportation. A good number owned a car. For persons with ID such levels of independence and mobility are exceptionally high, considering that persons with ID are generally viewed to be less independent, less likely to be involved in community events, and their leisure activities are mostly solitary and passive in nature unless they are supervised or assisted by direct service providers (Verdonschot, De Witte, Reichrath, Buntinx, & Curfs, 2009). In our study 89% of the TIL

graduates received independent living services (ILS). However, 97% of them used 30 hours of services or less each month. The cost associated with a graduate who receives 30 hours of services is \$10,800.00 annually, over \$22,000 less than the statewide average of 92 hours at a cost of \$33,120 per year. California provides mandated services for all adults who qualify for ILS after meeting criteria by the Department of Developmental Services (State of California, Department of Developmental Services, 2012). This includes providing in-home supports for individuals with ID/DD who live independently.

As noted previously, college students forge significant and sometimes lifelong relationships with their peers. We found that 95% of our graduates continue to socialize with TIL classmates through visits, phone calls, and email. The graduates are active in their friendship circles and communities and participate in many activities that include sports teams, social groups, and volunteer opportunities. Ninety-one percent of the graduates were registered to vote.

Our experiences with graduates taught us that most of them consider their Certificate of Completion as their terminal college degree and that the course work prepared them for employment and independent living. Yet some ventured further. Eighteen percent of the graduates enrolled in community college classes and one TIL graduate obtained a bachelor's degree.

### **Conclusion**

The evidence presented in this paper suggests that transition programs such as Taft College's TIL program can successfully prepare individuals with ID/DD to become productive members of society who will live independently and participate in civic, social, and communal activities. The TIL students master a rigorous course of study designed to meet these ends. They receive a certificate after successfully completing 36 classes. These classes were developed by Taft's TIL program faculty according to California community college curriculum development standards and practices. As with any other community college course, all TIL course content was submitted to the college district curriculum committee for review and approval and forwarded to the California Community College Chancellor's Office in Sacramento for final approval. All TIL courses are listed in the course catalogue.

While at Taft the TIL students are integrated

in all campus activities campus and considered an integral part of the culture of this institution. The college benefits greatly from the program's 98% success rate, twice the rate of degree and certificate program completions, in its overall count of program completions. Paid student internships have been created by the program, a Disabilities Studies major for traditional students, and plenty of opportunities for the campus community to work and learn with this exceptional group of students.

We consider this study a first step towards more research that must include in its design control groups and better measures of effects and their magnitudes. We are confident that the outcomes we described can then be associated more directly with the types of educational interventions that TIL graduates and graduates of similar transition programs receive. Postsecondary education for students with ID is a relatively new and emerging field of inquiry, with foundations being laid with studies such as the present one. Young persons with ID have a great capacity to learn and adapt to the challenges of adult life. We can learn much from their acts of bravery as they fight the odds against them and break down attitudes and beliefs about what persons with ID can or cannot do. We can use this knowledge to teach others interested in promoting or creating postsecondary education opportunities that such transition programs can indeed improve employment and independent living outcomes of persons with ID.

### **Limitations**

The findings presented in this study are not intended to provide conclusions that are representative of employment and independent living outcomes of persons with ID. The study participants are graduates of a unique transition program offered at a community college to young persons with ID who receive income support payments or have other sources of income and who wish to learn how to live independently. As such our respondents do not represent other persons with ID of similar age and gender. The specific criteria for inclusion in this study came from determinations of service eligibility of persons with intellectual and developmental disabilities, referrals from DDS regional centers, and Taft College TIL admissions criteria. Prospective students go through a carefully structured selection process that aims at identifying those who are most likely to succeed. The TIL program itself is

not representative of other PSE transition programs but constitutes one particular type of program in a highly diverse group of programs that is still emerging (McEathron & Beuhring, 2011).

This study was not designed as a treatment and control study. Instead, our investigation of employment and independent living outcomes of TIL graduates represents a select set of observations of their accomplishments that we wish to describe and compare to findings from similar research.

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