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# Evaluation of Outcomes of Youth and Young Adults Being Served under the Transition to Independence Process (TIP) Model by a Six Agency Collaborative

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## ABSTRACT

Two studies were conducted to evaluate the progress and outcomes of youth and young adults with serious mental health conditions being served by six agencies using the *Transition to Independence Process (TIP) Model*. The first study presents pre/post outcomes for the young people being served and examines some differential outcomes of gender, race, and diagnoses; and the second study involved a comparison between the TIP Model group and a typical case management group. The young people being served in the TIP Model showed improvements in areas of: daily-life functioning, employment, education, substance use, and involvement of hospitalization/crisis services related to mental health, drug use, and/or criminal justice. The comparison study demonstrated that the TIP Model group had better outcomes than the case management group. These improved outcomes were accomplished under a large county collaborative that had implemented the TIP Model and related supportive infrastructure. Implications of the finding and future research are discussed.

## KEYWORDS

Transition to adulthood; serious mental health conditions; outcomes of youth and young adults; transition to independence process (TIP) model; peer support specialists

During their transition to adulthood, all youth and young adults face decisions about new social situations and responsibilities, future career and educational goals, self-management of behavior and substance use, and development and maintenance of supportive and intimate relationships (Arnett, 2004). For these emerging adults, this is a period of “discovery.” Young people with serious mental health conditions (SMHCs) are particularly challenged during this transition period, and as a group, experience some of the poorest secondary school and postsecondary school outcomes among any disability group (H.B. Clark & Unruh, 2009; Hodgekins et al., 2015; A. J. Sheidow et al., 2012; Lee et al., 2017).

More specifically, this population of youth and young adults with SMHCs and related problems have higher secondary school dropout rates, higher rates of arrest, incarceration, substance use, and unemployment, and lower rates of independent living compared to their peers without disabilities (Davis et al., 2009; A. J. Sheidow et al., 2012; Klodnick et al., 2020; U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, 2018). According to Wagner and Newman (2012), a large number of students with SMHCs drop out of high school annually which is related to lower wages (Rouse, 2007), lower employment rates (U.S. Department of Labor, 2010), and poorer health (Pleis et al., 2010). Additionally, there are increased costs to society due to dropouts

including an average of 240,000 USD over one's lifetime related to lost tax contributions, reliance on welfare and Medicaid, and involvement in criminality (Belfield & Levin, 2007).

Some of these young adults also live with "chronic trauma." A groundbreaking epidemiological study (Adverse Childhood Experiences Study [ACES], Schilling et al., 2007) found that childhood trauma is associated with adult onset of chronic disease, as well as life-altering social and emotional problems. ACES also found a very strong association between childhood adversity and depression, anti-social behaviors and drug use in young adults. Trauma that is prolonged, cumulative, and recurrent has a profound impact on developing brains. "Because the transition to adulthood is a watershed developmental period, the mental health consequences of ACES are likely to have far-reaching impact by disrupting the establishment of positive roles and relationships that set the course for adult occupational and social attainment" (Schilling et al., 2007, p. 7).

Fragmented services and limited access across different programs (e.g., mental health, education, vocational rehabilitation, juvenile justice, child welfare, housing) and funding mechanisms (e.g., Social Security, state and local appropriations, Medicaid, federal block grants) further complicate this transition period for young people with SMHCs and their families. For the most part, each of these program components has entirely different eligibility requirements, and the child-serving and adult-serving programs often operate under different philosophies. Although each program may provide some essential services individually, it is often next to impossible for young people, parents, and practitioners to navigate across them due to the complexities and fragmentation within and between programs/systems (Davis et al., 2009; Hoffman et al., 2009; Klodnick et al., 2020; Pottick et al., 2008; Unruh & Clark, 2009). These difficulties in accessing appropriate services and the poor outcomes that many of these young people experience may also impact them over their entire life in areas such as employability, lower wages, and homelessness (A. J. Sheidow et al., 2012; Klodnick et al., 2020; Rouse, 2007; U.S. Department of Labor, 2010) and cost society through their lack of productive engagement, minimal tax contributions, and reliance on public services, such as Medicaid, welfare, correctional facilities, and emergency room services (Belfield & Levin, 2007).

The resulting poor outcomes for these youth and young adults are extremely costly on three fronts: (1) the individual and their family; (2) security and comfort of the community; and (3) local, state, and federal governmental entities. These "costs" are not just in the form of tax dollars and lost productivity, but also the human toll on young people, their families, and our society.

## **Program background**

### ***Transition to independence process (TIP) model***

The Transition to Independence Process (TIP) Model is a research-supported treatment that prepares and supports youth and young adults (Y&YAs; ages 14–29 years old) with SMHCs in their transitions into employment/career, educational opportunities, living situations, personal effectiveness/wellbeing, and community-life functioning: aka "transition domains" (H. B. Clark & Hart, 2009; Dresser et al., 2014; Karpur et al., 2005). The TIP Model is operationalized through seven principles that transition facilitators (i.e., proactive intensive case managers) use in guiding their work with Y&YAs across individually relevant

transition domains. The transition facilitators are also trained and coached in effective, developmentally appropriate TIP Model core practices to apply with Y&YAs to advance their setting of their own goals, achievement of goals, and in the learning of improved skill functioning across relevant areas such as daily living, social interactions, emotional regulation, managing high risk behaviors, and problem-solving and decision-making. A transition facilitator “partners” with a youth or young adult (Y/YA) to assist them in taking the helm and steering their own future (Dresser et al., 2014; Walker, 2015).

### ***Broward behavioral health coalition***

The Broward Behavioral Health Coalition, Inc. (BBHC) is the lead organization for the coordination of behavioral health services across Broward County, Florida. This county is a large metropolitan area that encompasses Fort Lauderdale and had a population of about 1.9 million people in 2017, with about 228,500 of these being in the 15 to 24 age range. The population also had wide racial, ethnic, and economic diversity. There were 17 behavioral health provider agencies in the county. In about 2012, the BBHC established a Program Implementation and Evaluation Committee that was focused on identifying priority needs across the county and on planning and recommending areas of expansion that could be undertaken in the short term and others that might require additional funding. In October 2015 BBHC and Broward County received a SAMHSA System of Care Expansion grant<sup>1</sup> to further advance its community collaborative for transition to adulthood.

### ***Program implementation***

BBHC’s program implementation and sustainability efforts were guided by implementation literature (Bond et al., 2014; Fixsen et al., 2005). During the years prior to the start of the grant project, the national TIP Model consultants were already collaborating with BBHC and its six provider agencies to implement the TIP Model. The consultants provided (and continued to provide as needed) competency-based training through TIP Model Cross-Site Forums and technical assistance to the teams, their agencies, and BBHC personnel. The transition facilitators and the supervisory personnel were taught and coached in the application of the TIP Model principles and core practices (e.g., In-vivo Teaching, SODAS Problem-Solving & Decision-Making method, Prevention Planning for High-Risk Behaviors).

Some of the infrastructure that was initiated earlier and continued under the grant was building site capacity for maintaining the TIP Model. For example, the TIP Model national consultants had already established some certified Site-Based Trainers (SBTs) to assist in the implementation of the TIP Model at agencies by providing training to new personnel at teams. The SBTs, along with the TIP consultants, also provided TIP Model orientation sessions to representatives from other entities (e.g., Juvenile Justice, Child Welfare, school district, community college, other provider agencies) across the county. The national TIP Model Fidelity Assessors had also conducted fidelity and concurrently mentored a couple local individuals who worked at the BBHC and were fully trained in the TIP Model to become Regional Fidelity Assessors. Once they were certified, they contributed to the ability

of the system to provide fidelity reviews and ongoing quality improvement (Dresser et al., 2014; Walker & Baird, 2018).

The grant also positioned the BBHC and its provider agencies with “shovel-ready features” to implement once the grant was secured. An example of a “shovel-ready feature” that was undertaken at the start of the grant was the implementation of supported employment teams at two other provider agencies. Supported employment used the IPS approach (individual placement and support) and established two small IPS teams, both composed of a supervisor and two IPS practitioners. All of the IPS team members were trained and certified in this approach and were also oriented to the TIP Model. Similarly, the personnel on the six TIP Model team were oriented to the IPS approach. Also, if a transition facilitator referred a Y/YA to an IPS team, the transition facilitator remained as the “primary” facilitator for the Y/YA and would meet with the IPS specialist and the Y/YA each week for planning and coordinating services. However, the availability of the 4 IPS personnel was limited in that young adult and adult referrals were coming in from all 17 provider agencies.

### ***Purpose of the evaluation project***

In March 2016, an evaluation was begun to examine the progress and outcomes of the Y&YAs being served by the transition teams at the six provider agencies that had implemented the TIP Model as the primary practice approach for their services. At the time of the evaluation, each of the teams were composed of 4–6 transition facilitators and 1–2 peer wellness specialists – all of whom were trained and mentored in the application of the TIP Model and its principles and practices for engaging and collaborating with the Y&YAs.

The first study provides quantitative analyses on the progress and outcomes for the Y&YAs and also some sub-analyses focused on gender, race, and diagnoses. A second study provides a comparison study between a sample of Y&YAs being served by the TIP Model teams and a similar sample receiving traditional case management services.

### ***Study 1: Outcomes from TIP model intervention***

Although the TIP Model has been shown to improve the progress and outcomes of Y&YAs at different sites (Dresser et al., 2014; Karpur et al., 2005; Klodnick et al., 2020), this current research involved examining outcomes for the Y&YAs being served by transition teams at six different provider agencies within a large TIP Model county collaborative. Another aspect of this study was to examine the outcomes over different episodes of exposure to the TIP Model. It is important to examine if an intervention is as effective with short verse long exposure in order to reach more young people since most transition programs have limited capacity at any given time (Davis, Sheidow, et al., 2015). Also, there is growing evidence that the progression toward adulthood roles varies by gender, racial/ethnicity, and diagnoses (Armstrong et al., 2003; Newman et al., 2011; Wagner et al., 2006). Some researchers (e.g., Haber et al., 2008a; Lyons & Melton, 2005) have suggested that there is a need to examine if transition programs are being equally effective in serving Y&YAs irrespective of their gender, ethnic/racial, diagnostic characteristics or experiential backgrounds (e.g., criminal involvement, substance use).

Study 1 involved conducting secondary analyses on the de-identified data from the original grant project so as to systematically examine the following research questions:

- (1) Did the Y&YAs improve on the outcomes during their exposure to the TIP Model program?
- (2) Was greater improvement associated with the longer exposure to the program?
- (3) Were there gender, racial, and/or diagnostic differences associated with improvements across the outcomes?

## Methods

The findings presented in this article are from secondary analyses that were systematically conducted on the datasets originally collected under this SAMHSA grant project. The first author of this article was the lead evaluator for the original grant project, and managed and conducted the secondary analyses for this article. The second author was the project director for the original grant. The datasets from this project were stored in a de-identified format and coded so that no individual identifiers were evident. All of the analyses for Study 1 and 2 were conducted using the SPSS software system. The Evaluation Plans for Study 1 and 2 were approved by the Institutional Review Board at the IntegReview IRB under its Education/Social/Behavior Research section. The datasets for these studies can be made available to qualified researchers by contacting the correspondence author.

The examination of the Y&YAs' progress and outcomes were analyzed in three different ways to provide an understanding of how the Y&YAs were progressing over time from their shorter exposure to the program (pre-treatment assessment to their 6-month assessment) to longer exposures to the program (pre-treatment assessment to their 12-month assessment or to their discharge assessment). The number of Y&YAs included in each of these analyses varied but was always based on ensuring that those who participated in each reassessment (i.e., 6, 12, and discharge) were compared to their own pre-treatment assessment.

## Participants

Participation in the original project was voluntary and no services were withheld if a Y/YA chose not to participate (or in the case an individual under 18 years of age, their parents chose not to allow participation). Between April 2016 and June 2019, 200 Y&YAs had completed the consent form and a pre-treatment assessment to participate in the original project. The pre-treatment assessment interview and other information from the intake and referral records for these Y&YAs revealed that these individuals had mental health diagnoses, as well as having histories that pose severe risk from associated problems. For example, 47% of the Y&YAs reported a history of trauma or abuse, 38% substance abuse, 33% had attempted suicide, 31% had involvement in the criminal justice system, 25% Child Welfare involvement, and 52% of the Y&YAs at intake reported a need for better housing and 45% for employment. Some additional risk factors were: 9% having had histories of out-of-home placements (e.g., group shelter care, group home or other residential facilities); 24% had been homeless sometime within the past year; 12% were in correctional placements within the past year; 11% were discharged directly from a crisis unit or residential facility to

this community-based program; and 30% reported attempting suicide in their lifetime. About 8% of the Y&YAs were either pregnant or parenting children.

There were 143 of these Y&YAs who completed the 6-month interview. Of these, nine were dropped from the study due to limited exposure to the intervention related to: (1) no contact; (2) moved out of the area shortly after enrollment; or (3) as with 1 of the youth, he was adjudicated to the adult criminal system just after enrollment and later sent to prison. Thus, the 6-month analysis compared 134 Y&YAs between their pre-treatment and their 6-month assessments. [Table 1](#) shows the number of Y&YAs who are included in this analysis (i.e., pre-treatment to 6-month assessment) and the next two analyses (i.e., pre-treatment to 12-month, pre-treatment to discharge). Most of these Y&YAs in each of these three samples are the same individuals, except for those who: (1) discharged prior to the 6 or 12-month assessments; (2) could not be secured for an assessment (e.g., difficulty scheduling a Y/YA, no showed, or refused); (3) moved out of the area; or (4) missed the window of opportunity for a particular assessment (under SAMHSA guidelines a 6 or 12-month assessment had to occur in the designated month or the month prior or after such).

Some of the characteristics (gender, race, age distribution, diagnoses) of the Y&YAs composing each of these samples are provided in [Table 1](#). For example, the second major column provides the percentages of the 134 Y&YAs with different characteristics in the sample analyzed for the 6-month assessment (i.e., their pre-treatment to 6-month reassessment). As this table shows 44% self-identified as female, 44% as male, and 12% transgender. In addition to this gender designation, 31% self-identified as also being LGBTQ. Note that gender (i.e., female, male, transgender) percentages total 100% for each of the assessment samples (three columns on the right side of the table). Again examining the 134 Y&YAs' sample for the 6-month analyses, the race distributions were 54% Black, 30% Hispanic, 36% White, and relatively small percentages reporting Native American, Pacific Islander, Asian, and Other. Due to this being a self-identifying listing for race and ethnicity, many Y&YAs selected more than one category, thus the sums within each of the three assessment columns exceeds 100%.

The age of each Y/YA was determined based on their birthdate at the time of the pre-treatment assessment. The age range at entry to the study was from 16 to 23 years of age. The distribution across some age categories are shown on [Table 1](#). Some diagnosis information for each Y/YA was provided by the provider agency after an individual was enrolled into the study. Some of these diagnoses were primary and/or secondary for the Y&YAs, thus the sums for each of the samples exceeds 100%. The largest percentages of the Y&YAs have diagnostic labels in the following categories: Depressive Disorders, Bipolar & Related Depression, ADHD, Substance Use/Addition, and Schizophrenic/Psychotic conditions. Since most of the Y&YAs in each of the three samples are the same individuals, the distribution across gender, race, age, and diagnoses is reasonably consistent.

### ***Data collection and analysis on youth and young adult outcomes***

Under the original grant, pre-treatment information regarding each Y/YA was gather from the agencies' electronic health records, intake/referral records, and collected by interviewers using the National Outcomes Measures (NOMs) protocol. The NOMs was developed by SAMHSA for use by local and national evaluators associated with its grants and contracts

**Table 1.** Sample size and characteristics for three analyses of outcomes for the Y&YAs.

Sample Size and Characteristics		Analyses from Pre-Tx to the Reassessment Listed Below		
		6-Month	12-Month	Discharge
Sample Size for Each of the Analysis =		134	100	97
Gender & Y/YA's Sexual Identity <sup>i</sup>	Female	44%	43%	47%
	Male	44%	47%	42%
	Transgender	12%	10%	11%
	LGBQ <sup>i</sup>	31%	29%	26%
Racial Label from Y/YA's Report at Pre-Tx <sup>ii</sup>	Black or African American	54%	52%	60%
	Hispanic or Latino	30%	27%	29%
	White	36%	32%	31%
	Native American	9%	7%	7%
	Pacific Islander	5%	6%	6%
	Asian	8%	7%	3%
	Other	1%	1%	1%
	Age at Pre-Tx Assessment	Youth 14 through 17 yrs.	25%	20%
	YAs 18 through 20 yrs.	66%	66%	70%
	YAs 21 through 23 yrs.	9%	14%	10%
Some Diagnostic Categories <sup>iii</sup> (Include primary &/or secondary diagnoses)	Depressive Disorders	46%	45%	42%
	Bipolar & Related	23%	20%	18%
	ADHD	22%	20%	19%
	Substance Use/Addiction	14%	14%	10%
	Schizophrenic/Psychotic	16%	16%	16%
	Conduct/Impulsive	9%	6%	5%
	Trauma/Stress Related	11%	10%	8%
	Anxiety	10%	6%	6%
	Oppositional Defiant	6%	5%	6%
	Gender Dysphoria	9%	7%	6%
Other	5%	5%	5%	

**Notes.**

<sup>a</sup>During the Pre-treatment assessment (Pre-Tx), a Y/YA was asked to report their gender (i.e., female, male, transgender). The three gender identifications total 100% for the samples for each reassessment (R). The LGBQ percentage is based on the Y&YAs who reported this sexual orientation at the Pre-treatment assessment.

<sup>ii</sup>At the Pre-treatment assessment, each Y/YA was asked to report on their identified racial categories. Due to this self-reporting, many Y&YAs selected more than one category, thus the sums in each of the three assessment columns exceeds 100%.

<sup>iii</sup>Diagnosis categories for each Y/YA was provided by the provider agency after a Y/YA was enrolled into the study. Some of these were primary and/or secondary for the Y&YAs, thus the sums for each of the samples (three reassessment columns) exceeds 100%.

related to child projects. The NOMs interview took, on average, about 1½ to 2 hours with each Y/YA. All data were coded with individual IDs to ensure that the confidentiality of the Y&YAs was protected, and only aggregated data were used for reporting findings.

The pre-treatment assessment and the other NOMs reassessment interviews covered the follow topics: personal functioning, stability in housing, education, crime and criminal justice status, and social connectedness. Many of these topics were composed of multiple questions with multiple-choice response categories or yes/no options; or statements with 5-point Likert-scales (e.g., strongly disagree, disagree, undecided, agree, strongly agree – along with the option of refused to answer). Each question or statement was to be answered based on the past 30 days (i.e., the 30-day period



prior to the pre-treatment assessment, the 30-day period prior to a reassessment interview).

Based on the BBHC's grant logic model, the evaluators, in conjunction with some adult and Y&YA members of the Program Implementation and Evaluation Committee, established criterion for each of the outcome indicators. For example, the "social connectiveness" topic was composed of four separate statements: (1) I know people who will listen and understand me when I need to talk; (2) I have people that I am comfortable talking with about my problems; (3) In a crisis, I would have the support I need from family or friends; and (4) I have people with whom I can do enjoyable things. The criterion for meeting a positive level of social connectiveness required that a Y/YA reported that they agree or strongly agree to each of the four statements.

The Committee had also targeted some housing problems that faced Y&YAs in the county. Thus, in the grant's logic model, decreasing homelessness and increasing access to independent living (i.e., YAs able to live in their own leased apartments they rented in complexes throughout the county) were established as project goals and measured through the NOMs. Another example of an outcome indicator that was analyzed was "Criminal/MH/Drug Crisis Use" which was composed of four questions asking for the number of nights spent in any of the following settings in the past 30 days: (1) Nights have you been homeless? (2) Nights have you spent in a hospital for mental health care? (3) Nights have you spent in a facility for drug detox/inpatient or residential substance abuse treatment? and (4) Nights you have spent in a correctional facility, including juvenile detention, jail, or prison? The criterion for a Y/YA being listed as involved with these types of expenses service facilities was reporting at least one night in the past 30 nights to any one of the four questions.

Two hallmark variables related to the transition to adulthood are employment (paid work in a competitive employment setting) and education (attending secondary school, college, and/or a technical or trade school). These two variables were analyzed from a database that the national evaluation team for SAMHSA had collected in conjunction with grant projects. The number of the Y&YAs included in these analyses from this BBHC sample were: 105 for the 6-month assessment; 88 for 12-month assessment; and 78 for the discharge comparison.

The hypotheses for this study stated a direction for the change related to each of the outcome variables. Because the hypotheses were directional and the sample sizes were relatively small, the hypotheses were statistically tested using Chi-Square Tests with the Fisher's Exact Test (1-sided).

## Results

### *Discharge analysis*

The findings are presented across each of the three reassessment periods, starting with the analysis for the 97 Y&YAs for whom a discharge assessment was secured. These discharges occurred between their fifth month of their services to their 18th month. Although this "last" assessment is referred to as "discharge," many of the 97 Y&YAs continued on with their services after closure of the grant project period.

Figure 1 provides progress and outcome findings for the 97 Y&YAs from their pre-treatment assessment to their discharge reassessment. The gray bar of each pair shows the percentage of Y&YAs who were involved in this outcome and the black bar the percentage of them involved at their discharge. For each of these outcome indicators the arrow at the end of the label for each pair of bars shows the hypothesized direction of change and then a symbol indicates the level of statistical significance of the change.

As is evident from Figure 1, all of the outcomes showed change in the hypothesized direction and the proportion of Y&YAs increasing or decreasing on each variable was found to be statistically significant, with 8 of the 9 variables being significant at the  $p \leq .01$  level and 1 at the  $p \leq .05$  level (i.e., tobacco use). More specifically, the first variable is the engagement of Y&YAs in employment in a paid competitive job setting. At pre-treatment, only 23% of

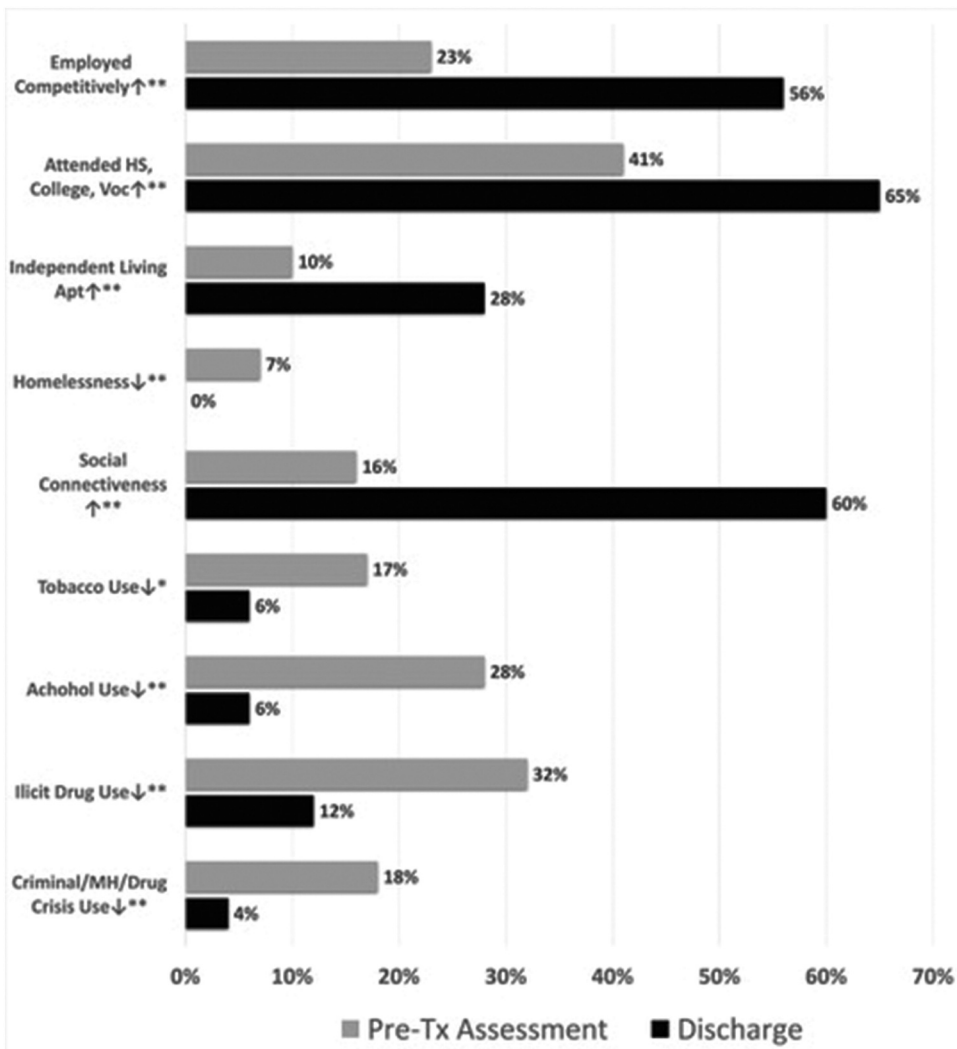


Figure 1. The Percentage of Y&YAs for Each Outcome at Pre-Treatment Assessment (gray bars) and Discharge Assessment (black bars).

the Y&YAs were employed whereas, their discharge reassessment showed that 56% of Y&YAs were employed, with this change being in the predicted direction and significant at  $p \leq .01$ . Another marker for emerging adults is that of education (attending secondary school, college, technical or trade school). At pre-treatment 41% of the Y&YAs were in schooling and this increased to 65% at discharge, with this change being in the predicted direction and significant at  $p \leq .01$ .

As can also be seen on [Figure 1](#), the percent of Y&YAs living in their own leased apartments increased from 10% to 28% ( $p \leq .01$ ) and the proportion of individuals experiencing homelessness in the past 30 days decreased from a pre-treatment of 7% to no homelessness at the discharge reassessment ( $p \leq .01$ ). The findings on social connectiveness show that only 16% of the Y&YAs met the criterion at pre-treatment, whereas this was increased to 60% at discharge, which was found to be a statistically significant change at  $p \leq .01$ .

This figure also shows that the use of tobacco products, alcohol, and non-prescription drugs decreased as was hypothesized with changes significant at  $p \leq .05$ ,  $p \leq .01$ , and  $p \leq .01$ , respectively. The Criminal/MH/Drug Crisis Use indicator included involvement in detention/jail/arrests, mental health in-patient residential, hospitalization, or crisis placements, and/or placement in a detox unit and was shown to decrease from 18% of the Y&YAs reporting this at pre-treatment to only 4% at their discharge. This reduction in use of expensive, restrictive facility use was in the predicted direction and significant at  $p \leq .01$ .

### ***Comparison of outcomes at shorter and longer term exposure to the program***

In order to examine the progress of Y&YAs at shorter and longer exposure to the intervention, outcomes for the samples at the 6 and 12-month assessments were compared (see [Table 1](#) for a description of these samples). The percentages of Y&YAs reporting on each of the outcome variables for these two reassessments with their respective pre-treatment assessments are shown in the center columns of [Table 2](#), along with the statistical significance levels achieved. For example, the seventh variable listed is “Social Connectiveness.” The hypothesis for this outcome was that the proportion of Y&YAs reporting valued social connections would increase from their pre-treatment to their later reassessments. As is shown in [Table 2](#), the percent of Y&YAs reporting social connectiveness increased for both the 6 and 12-month assessments, from 13% to 51% and 17% to 69%, respectively. Both of these changes were found to be significant at  $p \leq .01$  (\*\*).

A review of the 6-month and 12-month columns across the nine outcome variables on the top rows of [Table 2](#) shows that all of the changes were in the hypothesized direction (I = increase, D = decrease). Of these nine tests of significance at the 6-month reassessment, six were significant at the  $p \leq .01$ , 2 at the  $p \leq .05$  level, and 1 not significant; whereas at the 12-month reassessment 8 of the 9 analyses were significant at the  $p \leq .01$  level and the other 1 at the  $p \leq .05$  level. [Table 2](#) also shows the findings for the discharge reassessment that were presented previously in [Figure 1](#). The inclusion of these discharge findings here provides a complete summary of the findings for all three of the reassessments. Notice that for the discharge reassessment, 8 of the 9 tests were significant at the  $p \leq .01$  level and the other 1 at the  $p \leq .05$  level.

An indicator of serious distress by the Y&YAs is their thinking about suicide or attempting suicide over the past 6 months. These two questions were not asked at the pre-

**Table 2.** Percentage of Y&YAs for each outcomes at the pre-treatment assessment and the associated reassessment.

Outcomes & Hypothesis Direction <sup>i</sup> (Increase = I or Decrease = D) <sup>i</sup>	Hyp. <sup>i</sup>	Findings Pre-Tx (P) to Reassessment (R)								
		6-Month			12-Month			Discharge		
		P %	R %	p≤ <sup>ii</sup>	P %	R %	p≤ <sup>ii</sup>	P %	R %	p≤ <sup>ii</sup>
Employed in Competitive Work	I	31	57	**	28	57	**	23	56	**
Attending HS, College, Voc/Tech	I	49	70	**	46	68	**	41	65	**
Independent Living Apt (YA leasing apt.)	I	8	22	**	10	31	**	10	28	**
Homelessness	D	8	4	NS	10	3	*	7	0	**
Social Connectiveness	I	13	51	**	17	69	**	16	60	**
Tobacco Use	D	22	12	*	29	4	**	17	6	*
Alcohol Use	D	27	15	*	31	5	**	28	6	**
Illicit Drug Use	D	28	13	**	36	13	**	32	12	**
Criminal/MH/Drug Crisis Use <sup>iii</sup>	D	19	6	**	15	3	**	18	4	**
Suicide Ideation (past 6 months) <sup>iiii</sup>	D				31	16	*	30	1	**
Suicide Attempt (past 6 months) <sup>iiii</sup>	D				13	1	**	11	0	**

Notes.

<sup>i</sup>The hypotheses for this study stated a direction of change related to each of the outcome variables. The hypothesized direction of change is listed in the second column as increase (I) or decrease (D).

<sup>ii</sup>Since a direction of change was included for each hypothesis and the sample sizes were relatively small, the Fisher’s Exact Test (1-sided) was used. The level of statistical significance of the change is shown by the following symbols: \*\* refers to  $p \leq .01$ ; \* refers to  $p \leq .05$ ; and NS to “not significant.”

<sup>iii</sup>The “Criminal/MH/Drug Crisis Use” indicator category included involvement in: detention/jail/arrests, mental health in-patient residential, hospitalization, or crisis placements, and/or placement in a detox unit.

<sup>iiii</sup>The Suicide Ideation and Attempt questions were not asked at the initial assessment, so the 6-month assessment report was used as the “Pre-treatment assessment” for the 12-month and discharge reassessments.

treatment assessment, however, were asked at the 6 and 12-month assessments and also at the discharge. Thus the Y&YA’s report on the 6-month assessment was used as the “pre-treatment assessment” for the analyses at the 12-month and discharge reassessments. Seventy-one Y&YAs were included in the analysis for the 12-month assessment (comparing 6-month “pre-treatment” to 12-month assessment) and 70 Y&YAs for the discharge (comparing 6-month “pre-treatment” to discharge). As can be seen in the bottom two rows on [Table 2](#), all four of these analyses yielded changes in the predicted direction and were statistically significant.

### Outcomes related to characteristics of Y&YAs

Using the discharge sample of 97, some of the outcome indicators were examined as associated with gender, race, and a prevalent category of diagnoses. Due to the small sample sizes when conducting analyses on a subgroup of the 97 Y&YAs, only a few characteristic variables of these Y&YAs were analyzed, i.e., female, male, Black, and those with depression-related disorders (refer to [Table 1](#), top 2 rows under “Some Diagnostic Categories”). Each of these subgroups with these characteristics were analyzed for their outcomes using the same approach as previously described (Chi-Square Test with the Fisher’s Exact Test 1-sided).

The outcome findings for the females and males from pre-treatment assessment to discharge are shown in [Table 3](#) along with a comparison of the previously shown findings for all 97 Y&YAs in the total discharge sample. As can be seen in [Table 3](#), all of the findings

**Table 3.** Outcomes for gender subgroups compared to outcomes for All 97 Y&YAs – pre-treatment assessment to discharge reassessment.

Outcomes & Hypothesis Direction <sup>i</sup> (Increase = I or Decrease = D) <sup>i</sup>	Hyp. <sup>i</sup>	Findings Pre-Tx (P) to Discharge Reassess (A)								
		Females			Males			All Y&YAs		
		P %	R %	p≤ <sup>ii</sup>	P %	R %	p≤ <sup>ii</sup>	P %	R %	p≤ <sup>ii</sup>
Employed in Competitive Work	I	19	60	**	19	47	*	23	56	**
Attending HS, College, Voc/Tech	I	41	62	*	38	66	*	41	65	**
Independent Living Apt (YA leasing apt.)	I	11	37	**	2	17	*	10	28	**
Homelessness	D	2	0	NS	15	0	*	7	0	**
Social Connectiveness	I	22	67	**	15	61	**	16	60	**
Tobacco Use	D	11	7	NS	20	7	NS	17	6	*
Alcohol Use	D	35	9	**	20	2	*	28	6	**
Illicit Drug Use	D	41	13	**	24	12	NS	32	12	**
Criminal/MH/Drug Crisis Use <sup>iii</sup>	D	17	4	*	20	5	*	18	4	**

Notes.

<sup>i</sup>The hypotheses for this study stated a direction of change related to each of the outcome variables. The hypothesized direction of change is listed in the second column as increase (I) or decrease (D).

<sup>ii</sup>Since a direction of change was included for each hypothesis and the sample sizes were relatively small, the Fisher's Exact Test (1-sided) was used. The level of statistical significance of the change is shown by the following symbols: \*\* refers to  $p \leq .01$ ; \* refers to  $p \leq .05$ ; and NS to "not significant."

<sup>iii</sup>The "Criminal/MH/Drug Crisis Use" indicator category included involvement in: detention/jail/arrests, mental health in-patient residential, hospitalization, or crisis placements, and/or placement in a detox unit.

suggest improvement in the direction hypothesized and the majority of the changes were statistically significant, however, neither subgroup achieved as consistently high levels of statistical results as the full discharge sample of 97.

Table 4 shows the outcome findings for the subgroup of Blacks and a subgroup of Y&YAs with depression-related disorders. The findings for both of these two subgroups are similar to the gender subgroups, showing that all of the outcomes changed in the hypothesized direction, but the statistical significance was not always as strong as that for the full discharge sample.

## Discussion

These results show improvements across all of the transition outcomes tracked for the Y&YAs being served across the six TIP Model teams. The Y&YAs showed improvements in their outcomes over time with: (1) increases in the proportion of them being more socially connected, employed, attending schooling (secondary, college, and/or vocational or technical training), and securing independent living in an apartment; and (2) decreases in the proportion of them experiencing such things as homelessness and other restrictive and expensive residential, incarceration, and crisis services. The findings for early and longer exposure to the intervention supports and services suggest that the 12-month assessment yield slightly better results than found at the 6-month assessment. More specifically, Table 2 shows that at the 12-month reassessment all of the outcome indicators were found to be statistically significant changes and at 6-month one of these was not significant. The increased improvement on outcomes over longer exposure to the intervention has

**Table 4.** Outcomes for race subgroup and depressive disorders subgroup compared to outcomes for All 97 Y&YAs – pre-treatment assessment to discharge reassessment.

Outcomes & Hypothesis Direction <sup>i</sup> (Increase = I or Decrease = D) <sup>i</sup>	Hyp. <sup>i</sup>	Findings Pre-Tx (P) to Discharge Reassess (R)								
		Blacks			Y&YAs with Depression			All Y&YAs		
		P %	R %	p≤ <sup>ii</sup>	P %	R %	p≤ <sup>ii</sup>	P %	R %	p≤ <sup>ii</sup>
Employed in Competitive Work	I	21	59	**	26	54	**	23	56	**
Attending HS, College, or Trade	I	40	70	*	44	65	*	41	65	**
Independent Living Apt (YA leasing apt.)	I	14	33	*	10	35	**	10	28	**
Homelessness	D	7	0	NS	4	0	NS	7	0	**
Social Connectiveness	I	19	58	**	14	60	**	16	60	**
Tobacco Use	D	11	4	NS	19	2	**	17	6	*
Alcohol Use	D	32	9	*	25	8	*	28	6	**
Illicit Drug Use	D	35	14	**	31	12	*	32	12	**
Criminal/MH/Drug Crisis Use <sup>iii</sup>	D	20	5	*	19	2	*	18	4	**

Notes.

<sup>i</sup>The hypotheses for this study stated a direction of change related to each of the outcome variables. The hypothesized direction of change is listed in the second column as increase (I) or decrease (D).

<sup>ii</sup>Since a direction of change was included for each hypothesis and the sample sizes were relatively small, the Fisher’s Exact Test (1-sided) was used. The level of statistical significance of the change is shown by the following symbols: \*\* refers to  $p \leq .01$ ; \* refers to  $p \leq .05$ ; and NS to “not significant.”

<sup>iii</sup>The “Criminal/MH/Drug Crisis Use” indicator category included involvement in: detention/jail/arrests, mental health in-patient residential, hospitalization, or crisis placements, and/or placement in a detox unit.

also been reported in another study using the TIP Model as its foundational practice (Klodnick et al., 2020).

To better understand the impact of the TIP Model on Y&YAs with some different characteristics, sub-analyses were conducted on some gender, race, and diagnoses characteristics for the Y&YAs in this study. These sub-analyses were limited due to having to select only a few characteristics with a reasonably large number of Y&YAs so as to enable a descriptive statistical analysis to be conducted. It is interesting to note that a substantially larger proportion of females achieved employment and their own apartments than did the males (Table 3). Black Y&YAs showed substantial increases in employment, education, and living in their own apartments (Table 4). As interesting as these variations in progress on different outcomes might be, the observation that is most impressive is that each of these subgroups showed statistically significant improvement on all but one or two of the outcomes.

Two of the major limitations of this study are that it was based on self-report by the Y&YAs and that there was not a comparison group or randomized control group. The SAMHSA NOMs instrument has been used extensively for hundreds of grants, yet there is no national database of other transition programs to access and compare one’s findings to or to use as a sample “typical services” comparison group. Another limitation of this study is that most of the NOMs items only cover the past 30 days, thus the analyses do not allow an examination of the length of time consistently employed or in residential treatment, or the number of crisis episodes over the past 6 months. Asking about just the past 30 days probably minimizes the number of Y&YAs who would be counted on a given positive or negative outcome indicator. This may have led to some of the lower percentages of Y&YAs, which for some analyses creates a “floor effect” (i.e., not being able to reduce the percentage

sufficiently to be statistically significant, e.g., homelessness at 6-month assessment on [Table 2](#)). These types of limitations and the fact that no follow-along data were collected after the Y&YAs left the program limits any assessment on the extent to which these improvements were consistent over extended periods and maintained into the future for these Y&YAs.

The current findings from the BBHC large county collaborative are particularly significant in demonstrating the application of the TIP Model by teams at six agencies and their impact on the Y&YAs being served (Walrath et al., 2008). Every outcome showed the proportion of Y&YAs changed in the hypothesized direction of change and over 93% of the 56 analyses were found to be statistically significant for the comparisons across the length of exposure analysis ([Table 2](#)) and the subgroup analyses regarding gender, race, and diagnoses ([Tables 3 and 4](#)). Other studies have shown the TIP Model to be effective in improving the outcomes of the Y&YAs being served by a given team in a community (Dresser et al., 2014; Haber et al., 2008b; Karpur et al., 2005; Klodnick et al., 2020), however, none of these involved multiple-provider agencies under a large county collaborative.

## **Study 2: TIP Model and comparison group study**

The research on transition to adulthood for Y&YAs with SMHCs is still in its infancy with several best practice models being described and evaluated (e.g., Multisystemic Therapy for Emerging Adults, Transition to Independence Process Model). Only a couple random assignment studies have been conducted, and although they showed some encouraging findings, they involved different populations of Y&YAs and had relatively small sample sizes (Geenen et al., 2015; Valentine et al., 2018). Therefore, the field is still benefiting from various levels of evaluation research to further refine and assess the impact of promising practices (Davis, Sheidow, et al., 2015; A.J. Sheidow et al., 2016).

This current comparison study examined the differences in how the Y&YAs were being impacted by typical case management services within Broward County in contrast to the supports and interventions provided by the TIP Model teams. This study, like Study 1, involved a secondary analysis of progress and outcome indicators that were secured during the grant project. The primary research question for this study was: Did Y&YAs make greater improvements on their outcomes if they were in the TIP Model group verses the case management group?

## **Methods**

### ***Participants and experimental design***

A cohort of Y&YAs enrolled in services with BBHC TIP Model teams between January and June of 2018 were selected for the outcome comparison evaluation. This resulted in a sample size of 29 TIP Y&YAs. On a retrospective basis, 29 Y&YAs who entered services during this same period under other BBHC agencies using typical case management services (“treatment as usual”; TAU) were identified within the BBHC database. These 29 Y&YAs for the TAU group were selected from Y&YAs who met the same eligibility criteria as the TIP group; with them ranging from 16 to 23 years of age, had SMHCs, and were at risk of, or have had extensive histories of, out of home placements, co-occurring substance

use (e.g., Cannabis Dependence, polysubstance dependence), developmental trauma, and/or multiple-system involvement (e.g., Child Welfare and criminal justice involvement).

The TIP group and a TAU group provided for a group comparison design study which examined outcomes over the 12 months from June 2018 to June 2019. Since the selection process of the TAU Y&YAs did not require matching to the specific ages of the TIP Y&YAs, except for being in the age range of the TIP group, there were some differences in the demographic characteristics of the two groups. Of the 29 Y&YAs in both groups, 26 in the TAU group were 18 years or over at the time of their admission, as compared to 22 in the TIP group. The self-identified race and ethnicity categories of the Y&YAs between the two groups were consistent across two of the categories; where the TAU group had 13 Blacks and 6 Hispanics and the TIP group had 11 Blacks and 6 Hispanics. Beyond these two ethnicity/racial categories there was no consistency (e.g., Hispanic and White categories were both checked by some Y&YAs).

### **Data collection**

Data for this study was secured for both groups from the BBHC data system and focused on the status of the Y&YAs at the end of the 12-month period. The following types of variables were available for both groups: employment (working in a paid competitive job setting), education (attending secondary school, college, technical or trade school), living situation, and homelessness.

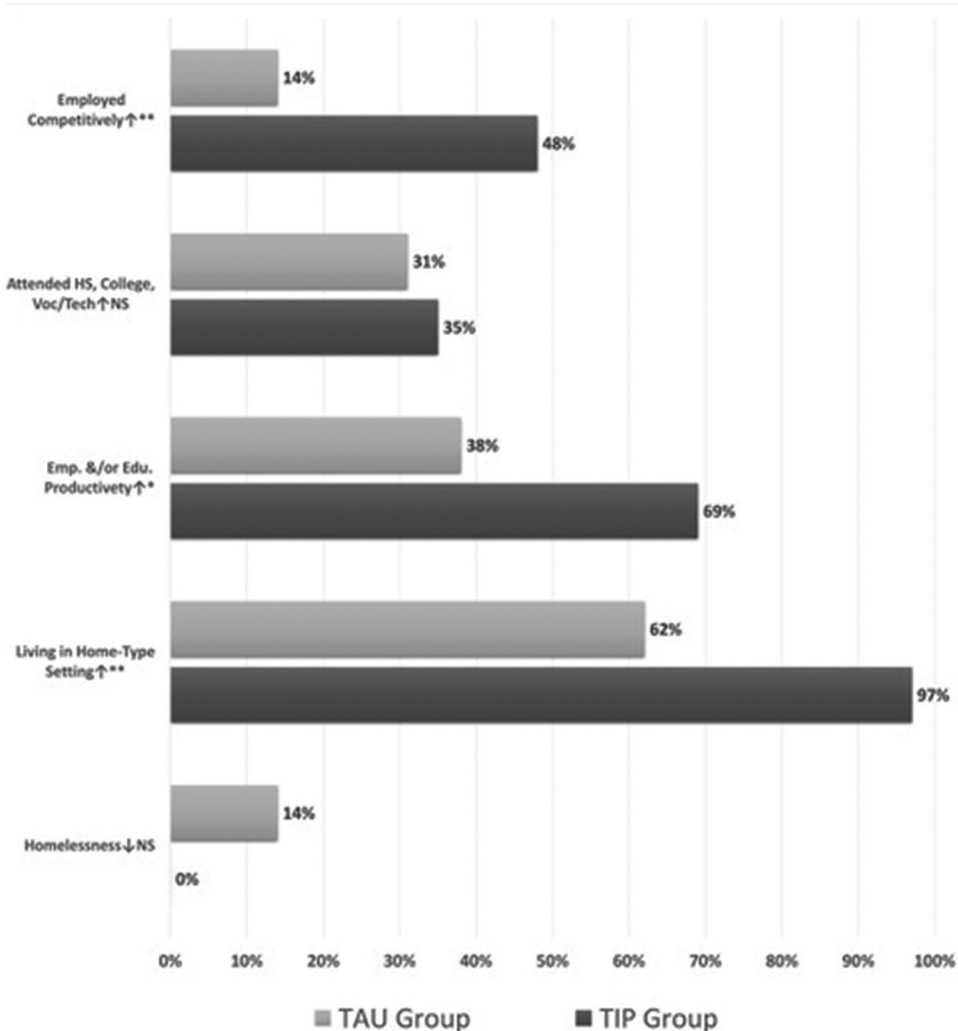
The transition facilitators were applying the TIP Model and tailoring the supports and services to the interests, needs, and goals of the Y&YAs' relevant transition domains – as was described in the introduction to this article. In the TAU group, case managers served the Y&YAs with a primarily focus on mental health and substance abuse treatment through referrals to services within their agency and to other entities (e.g., housing, career center, supported employment, vocational rehabilitation) to address other needs.

### **Results**

Figure 2 shows the percentage of progress by the Y&YAs in the TAU group and the TIP group across each of the markers. The gray bar of each pair is for the TAU group and the black bar the TIP group. For each of these outcome indicators, the arrow at the end of the label for each pair of bars shows the hypothesized direction for the TIP group over the TAU group and the statistical significance of the difference between the two groups is shown by the symbols described on the figure.

As illustrated in Figure 2, a significantly larger percentage of the TIP Y&YAs achieved employment as part of their program participation. Additionally, slightly more of the TIP group were in school or training programs. Employment and education represent two very important markers of transition to adulthood; and as is shown in the third pair of bars on Figure 2, the “productive engagement” indicator of “employed and/or in school/training” shows that only 38% of the TAU group met this combined marker at the 12 month point in contrast to 69% of the Y&YAs in the TIP Model group. Although the difference between the groups on the employment variable and the employment/education variable were statistical significance ( $p \leq .05$ , and  $p \leq .01$ , respectively), the difference in attending school/training was not significant.





**Figure 2.** Comparison Study Findings for the Treatment as Usual (TAU) Group and the TIP Model Group.

Related to living in home-type settings (e.g., independent apartment, supported living apartment, living with family of origin or relatives) at the end of this 12-month comparison, 62% of the TAU group achieved this marker in contrast to 97% of the TIP Model group. Fourteen percent of the TAU group were homeless at this 12-month point versus none of the TIP group were homeless. The home-type living setting finding was statistically significant at  $p \leq .01$ , however, the homelessness differences were not significant between the two groups.

## Discussion

The TIP Model was shown to have better outcomes in this preliminary comparison study than those achieved under the TAU case management approach after each group had at

least 12 months of exposure to their service array. The statistical significance of the findings related to the higher percentage of the TIP group being employed is particularly impressive given that 90% of the TAU group were 18 years or over at the time of their admission, as compared to 76% of the TIP group. For each of the variables analyzed and presented in [Figure 2](#), all of the percentages showed greater progress by the TIP group in contrast to the TAU group, with 3 of the 5 differences on the variables being found to be statistically significant.

This comparison study has three major limitations including: (1) involved only a relatively small number of participants; (2) the groups were not established by random assignment of the Y&YAs; and (3) the comparison was across a relatively small number of outcomes.

One of the previous studies on the TIP Model did involve a matched comparison group and follow up. Karpur et al. (2005) examined the postsecondary outcomes of TIP program completers from a secondary school-based TIP Model program (former students with severe emotional disturbance [SED]) who had at least 1 year of exposure to TIP in contrast to the outcomes of other Y&YAs from the same urban school district. Comparison groups were matched on age, gender, and ethnicity, and were composed of: (1) former students with SED classifications who had no specialized transition services, and (2) former students with no previous disability classifications. The findings demonstrated statistically better outcomes across postsecondary indicators of education/vocational training and incarceration for the former TIP group in contrast to those of the SED comparison group. There was not a statistically significant difference between these two groups on the percentage of YAs employed. One interpretation of these findings is that the TIP group may have a higher likelihood of achieving future employment that provides a livable wage and meaningful career due to the higher percentage of YAs who continued into postsecondary education. The lower incarceration findings for the TIP group also suggests a better future for these YAs. On most of the postsecondary outcome indicators, the TIP program group percentages were more closely approaching the levels of the comparison group of YAs with no disabilities classifications than did the matched comparison non-TIP group SED group.

The findings from both of these preliminary comparison studies (i.e., Karpur et al., 2005; and Study 2) include outcomes on important transition to adulthood markers (e.g., employment, education, living situations). Also, these findings, like those of Haber et al. (2008b) and Klodnick et al. (2020) provide further evidence of the positive impact that the TIP Model has on Y&YAs with SMHCs and related problems.

Although these studies are continuing to contribute to the research underpinnings of the TIP Model, the need for randomized controlled studies on transition to adulthood programs continues to be of importance. A few of the valiant efforts related to random controlled studies of programs are represented by: (1) Valentine et al. (2018) where the Youth Villages program was tested with some encouraging findings for the program group versus the services as usual group for Y&YAs with foster care or juvenile justice involvement; (2) Geenen et al. (2015) where the Better Futures program was tested with participants in foster care who were in higher education; and (3) Davis & Sheidow, (2020) where a large-scale long-term randomized controlled study is currently underway to examine the impact of Multisystemic Therapy for Emerging Adults program serving criminal offenders with SMHCs.

## General discussion and implications

This research article contributes further to an understanding of how a large county collaborative can implement and sustain a transition program to better serve Y&YAs and their families (Clark et al., 2015; Walker, 2015). These program efforts were guided by implementation science (Fixsen et al., 2005 & 2019) and more specifically strategies specific to implementation of transition to adulthood programs (Clark et al., 2015).

The TIP Model has been shown to be effective in improving the progress and outcomes of Y&YAs (Clark et al., 2004, 2008; Klodnick et al., 2020). The current studies extend these findings substantially by demonstrating: (1) implementation of the TIP Model across multiple transition teams with different provider agencies; (2) all of this being done in the context of a collaborative across a large metropolitan area; and (3) progress and outcome improvements on a relatively large sample of Y&YAs with SMHCs and other risk problems. Large percentages of Y&YAs showed substantial improvements across most all of the outcome indicators. These findings extended to an examination of some subgroups, analyzing outcomes for females, males, Blacks, and Y&YAs with depression diagnoses. All of the percentage changes in the outcomes were in the hypothesize direction and 88% of the 47 analyses were found to be statistically significant (Tables 2, 3, & 4).

The comparison study (Study 2) also contributes to an understanding of the impact of the TIP Model when compared to a typical case management approach for working with Y&YAs who have SMHCs and are in transition to adulthood. The TIP Model demonstrated a significantly larger proportion of Y&YAs being employed and living in home-type settings in contrast to those achieved by the treatment as usual (TAU) group. Attending school, college, and vocational/technical training programs was not shown to be statistically significant in this comparison study, however, it was found to be a significant improvement in all of the analyses on this variable under Study 1 and also in the comparison study that was described earlier in this article (Karpur et al., 2005). The “education marker” is considered extremely important in that education/training programs are typical paths to careers which might provide greater job satisfaction along with other economic advantages (e.g., livable wage, benefits).

Both Studies 1 and 2 showed that the Y&YAs benefited greatly from the collaborative which expanded transitional housing and scattered site apartment placement and supports. The findings from the comparison study also illustrate that the TIP Model yielded better independent living outcomes than those for the TAU group even though these same housing options and most of these same resources were available to both groups. Similarly, the IPS team resources were also available to Y&YAs from both groups, yet the TIP group yielded statistically significant better employment outcomes. These findings may relate to the individually tailored supports, futures planning, and a focus on skill development (e.g., emotional regulation, interpersonal interactional skills), and the application of a problem-solving and decision-making method – all of which are essential features of the TIP Model (e.g., Dresser et al., 2014; Klodnick et al., 2020; [www.TIPstars.org](http://www.TIPstars.org)).

Future research will also need to examine the implementation, effectiveness, and sustainability of the TIP Model through: (1) randomized controlled studies; (2) examination of its effectiveness with Y&YAs with different orientations and characteristics, such

as, sexual identity, diagnoses, and co-occurring substance use; and (3) exploring the extent to which a community collaborative facilitates the building of a contextual support system for the sustaining of the TIP Model and infusion of its principles throughout various agencies across the county. It will also be important to conduct cost/benefit studies to examine if a given transition program is being cost effective for society. A preliminary “cost avoidance” study was conducted on the TIP Model and demonstrated reduction in the involvement in the criminal justice system and decrease in the use of “intensive” mental health/substance abuse services and public assistance (Clark et al., 2004). This cost avoidance study suggested that there were substantial savings achieved that greatly exceeded the cost of the program. To further advance the transition to adulthood research base will require some larger scale studies that extend over a substantial number of years to be able to track the life progression of the youth as they become emerging adults and adults.

The BBHC and the provider agency leadership created an implementation plan and involved Y&YAs, parents, provider personnel, and other community representatives to systematically address the barriers they found in the community and expand the collaborative to support the practices that were needed to engage and advance their Y&YAs. Having a collaborative like the BBHC, with county, city, and agency leadership and funding entities that are attentive to and willing to make data-based decisions is a jewel for applied researchers, but even more importantly for the communities and citizens being served.

## Note

1. The original data collection occurred under an expansion grant from the Substance Abuse Mental Health Services Administration (SAMHSA). This expansion grant was entitled: One Community Partnership 2 (OCP2), SAMHSA grant number 1U79SM062454-01, with funding for 4 years. It was awarded to the Broward County Commission through its Community Partnership Division’s Children’s Services Administration and implemented by the Broward Behavioral Health Coalition, Inc with assistance from the Children Services Council of Broward County.

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also a Certified Chief Fidelity Assessor for the TIP Model and is employed at the TIP Model purveyor: Stars Training Academy of the Stars Behavioral Health Group in Long Beach, CA.

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## Disclosure of possible conflict of interest

The third author is the developer of the Transition to Independence Process (TIP) Model and is a Research Consultant to the Stars Behavioral Health Group that serves as the purveyor of the TIP Model.

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