

Self-determination in the Think College Transition Model: Results from a Quasi-experimental Study

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Many students with intellectual disability or autism (ID/A) remain in high school and receive special education services until the age of 21 or 22 (Wehman, 2012). Students with ID/A who stay in school past age 18 typically participate in life-skills or community-based vocational programs, often only with other students with disabilities (Chiang, Ni, & Lee, 2017). Fewer students are supported to access postsecondary education environments or engage in paid employment in their communities. The majority of youth with ID/A exit high school and enter into a lifetime of under- or unemployment, sheltered employment, and day habilitation (Sulewski, Zalewska, Butterworth, & Migliore, 2013; Gidugu & Rogers, 2012).

The Think College Transition (TCT) Model for Inclusive Dual Enrollment was developed to provide transition-aged youth with ID/A an inclusive college-based transition model to improve their post-school outcomes. It was built upon the existing Massachusetts Inclusive Concurrent Enrollment Initiative (MAICEI) which supports partnerships between local education agencies and colleges and universities to provide transition experiences to youth with various developmental disabilities.

The TCT Model is a holistic intervention that supports students in every aspect of their college experience. Figure 1 shares an overview of the student-centered components, as well as the systems, foundations, and collaborations that make up the entire intervention. These elements include student-led person-centered planning sessions, goal check-ins between student and advisor, student participation in a first-choice academic class aligned with chosen career goal, availability of career and disability support services offered by the student's institute of higher education (IHE) as well as a peer mentor, and student participation in an internship or employment related to the chosen career goal. In addition, students exposed to the TCT Model spent the majority of the weekday outside of their typical transition setting.

While the TCT Model's long-term goals were to improve youth's post school outcomes, the research was limited to the time period when students were in school and thus could not track student progress post-transition. Thus, the evaluation examined the effect

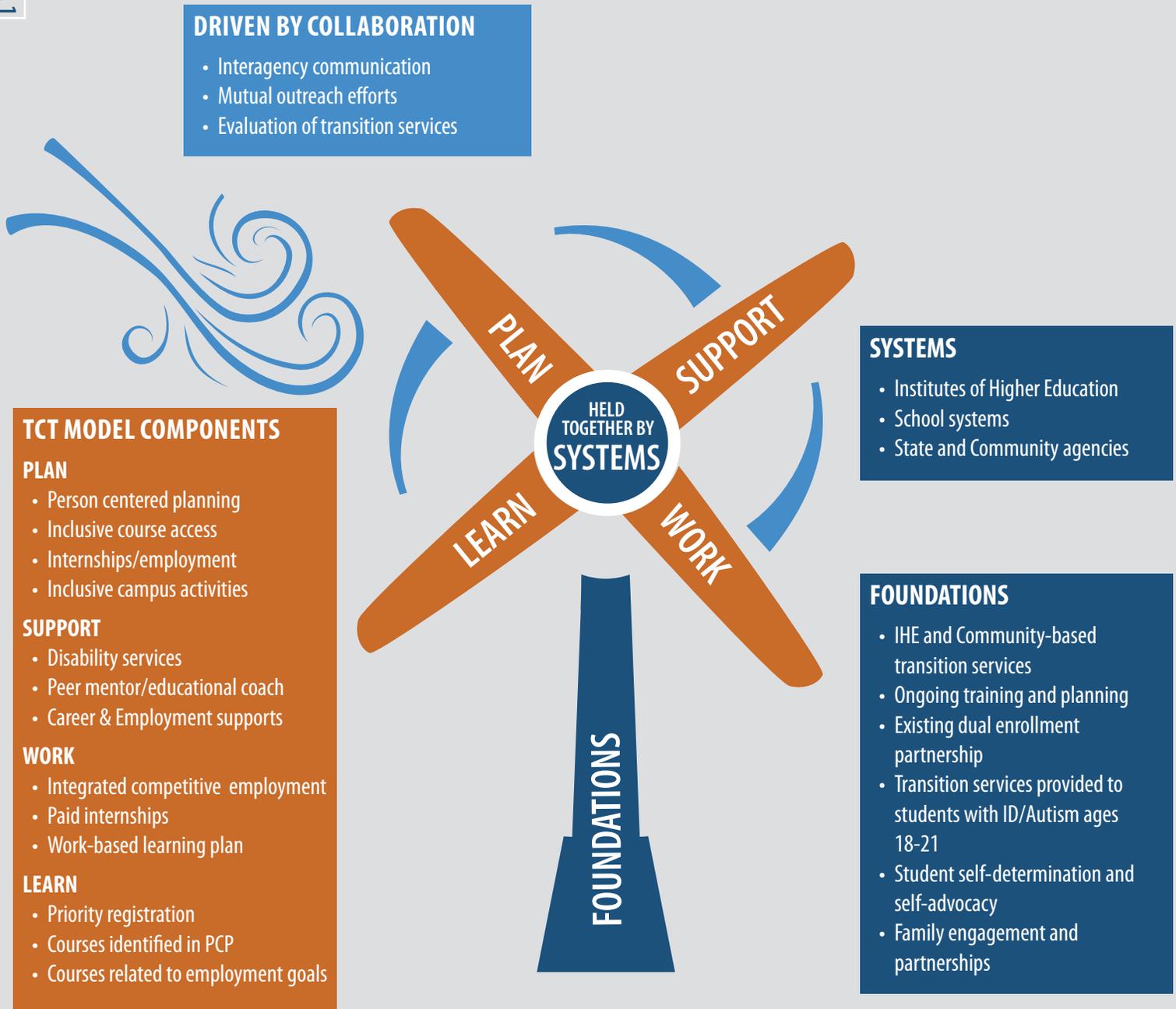
of the TCT Model on students' self-determination as an appropriate proxy for future success (Shogren, Wehmeyer, Palmer, Rifenbark, & Little, 2015; Papay & Bambara, 2014; Wehmeyer & Palmer, 2003). It was hypothesized that this holistic TCT Model intervention would provide significant opportunities to develop self-determined action and would therefore increase students' scores on a measure of self-determination as compared to comparison students not engaged in the TCT Model. For example, students engaged in the TCT Model were supported to lead their person-centered planning process to identify, update, and continuously monitor their postsecondary interests and goals; and students were supported to direct their choice of courses, extracurricular activities, social engagements, and employment experiences. Through these elements, the students could make intentional choices based on interests and experiences, setting goals, following through on those goals, and recognizing their strengths.

METHODS AND ANALYSIS

Students eligible to participate in the research study were transition-aged students with ID/A, with no prior college experience, engaged in their district's transition services. Intervention students were those who were enrolled in the MAICEI program at one of the three target colleges and comparison students were those who were eligible for the MAICEI program but not enrolled and instead received traditional transition services in their districts. All eligible students of both types (intervention and comparison) from IHE-partner school districts were invited to participate in the research study. Depending on their district, comparison experiences included participation in community activities, sheltered work, and/or classes with their transition peers. The research presented here includes 36 intervention and 31 comparison students across two school years.

A pre-test/post-test design using a valid and reliable instrument, the Self-Determination Inventory (SDI), was used to determine the effect of TCT Model participation on the students' self-determination. The SDI was developed to measure self-determination in youth aged 13 to 22 with and without disabilities, including those with ID/A (Shogren et al., 2018; Shogren, Wehmeyer, Little, Pratt, Palmer, Seo,

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2015). The SDI defines self-determination by three essential characteristics made up of seven sub-domains (see Table 1). Volitional Action is measured by autonomy and self-initiation and refers to the student making intentional choices based on their preferences. Agentic Action is measured by self-direction and pathways thinking and describes the students' actions in service of their goals. Finally, Action-Control Beliefs are measured by control-expectancy, psychological empowerment, and self-realization and refer to the students' understanding about the relationship among their actions, how those actions are carried out, and the outcomes of

those actions (Shogren, Wehmeyer, Palmer, Forber-Pratt, Little, & Lopez, 2015).

All students in the research study completed the SDI on an iPad. The student read each item, or was read the item by the researcher, and then touched a place on a digital line below each sentence to show how much they agreed or disagreed with the sentence. The line was anchored by the words "disagree" and "agree" to the left and right of each line respectively. Locations on the line were converted computationally to a numeric score between 0 (disagree) to 100 (agree). Average scores were computed for each sub-domain at pre-test (fall) and post-test (spring).

TABLE 1. SELF-DETERMINATION SUB-DOMAINS: THE ESSENTIAL CHARACTERISTICS WHICH THEY DEFINE AND SAMPLE SCALE ITEMS FROM THE SDI

Sub-domain	Essential Characteristic	Sample Scale Item
Autonomy	Volitional action	I choose activities I want to do
Self-initiation		I look for new experiences I think I will like
Self-direction	Agentic action	I set my own goals
Pathways thinking		I think of more than one way to solve a problem
Control-expectancy	Action-control beliefs	I keep trying even after I get something wrong
Psychological empowerment		I know what I do best
Self-realization		I have what it takes to reach my goals

FINDINGS

Figure 2 highlights the impact the TCT Model had on students' assessment of their self-determination. Students in the intervention group, who participated in the TCT Model, scored higher at post-test than comparison students on all sub-domains of the SDI. This difference was substantively important for all domains except Pathways Thinking (see Table 2) and statistically significant for both sub-domains of Volitional Action (autonomy, $p=.03$; self-initiation, $p=.04$) as well as for self-realization ($p=.04$).

Conditional effect sizes, taking into account students' scores at pre-test, ranged from .23 (pathways thinking) to .55 (autonomy) (Table 2). Effect sizes over .25 are considered substantively important by the What Works Clearinghouse (What Works Clearinghouse, 2017) and were considered in this study because the overall small sample size meant that substantive changes might not reach statistical significance. Even with the small sample size, however, these analyses indicate that the TCT model had a substantive impact on six of the seven SDI sub-domains.

FIGURE 2. MEAN SCORES AT POST-TEST FOR INTERVENTION AND COMPARISON STUDENTS FOR EACH SDI SUB-DOMAIN

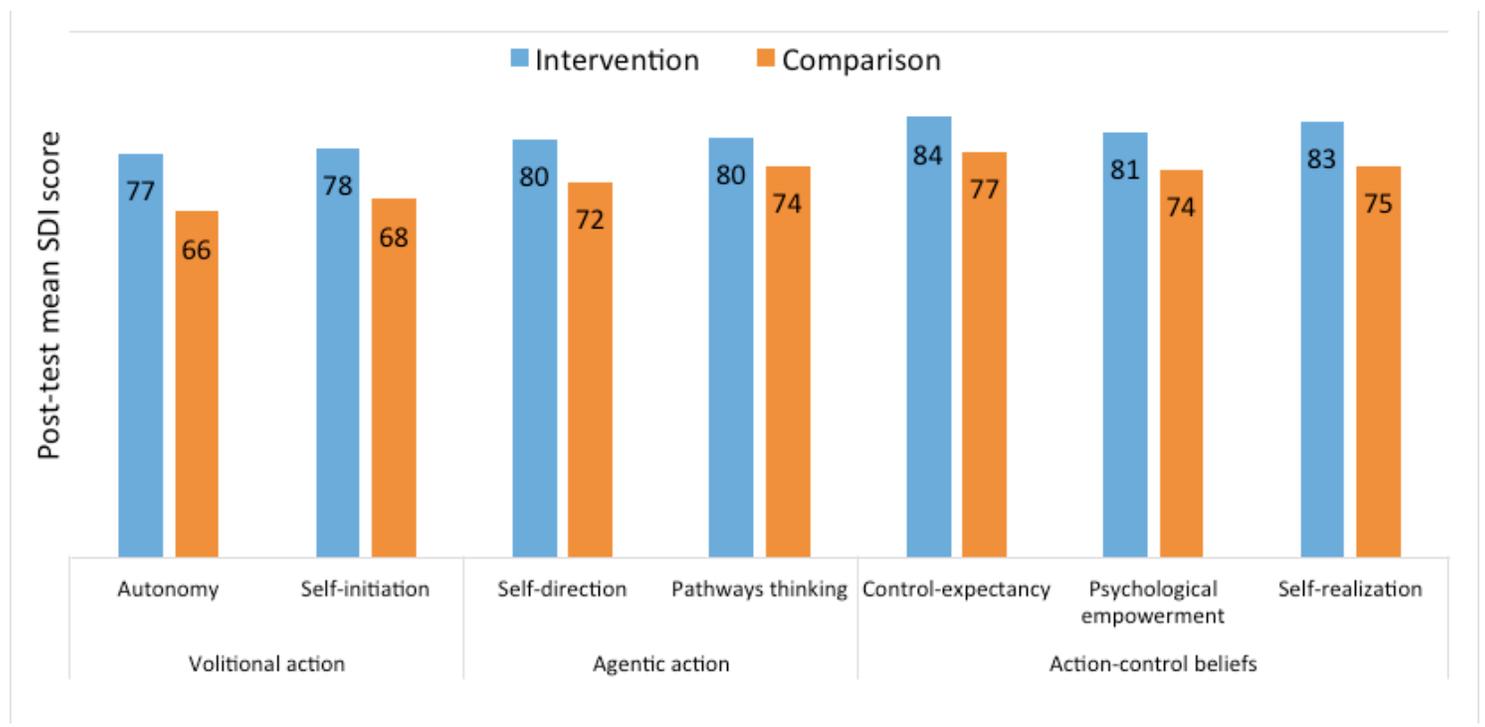


TABLE 2. CONDITIONAL EFFECT SIZES FOR SDI SUB-DOMAINS

Sub-domain	Conditional Effect Size
Autonomy	.55
Self-initiation	.50
Self-direction	.39
Pathways thinking	.23
Control-expectancy	.36
Psychological empowerment	.31
Self-realization	.45

LIMITATIONS AND CONCLUSIONS

Every research study conducted on active educational programs includes some tensions that lead to limitations and this research was no exception. First, the holistic nature of the intervention provided ID/A students with a broad and rich experience with opportunities to engage in academic classes, college social life, institutional supports, and employment with their same aged peers. However, this made it difficult to isolate which parts had the most impact. Second, the TCT Model was built upon meaningful partnerships between IHEs and districts such that all parties believed in the merit of the MAICEI program and the TCT Model. The TCT Model also included technical assistance training events and workshops on topics such as employment, student supports, self-determination, and advising for staff from all of the involved institutions. Because comparison and intervention students came from the same districts and were supported by the same staff members, there was almost certainly intervention contamination of unmeasured quantity on the comparison students. Last, the research was limited to three IHEs and partner school districts which limited the sample size.

Overall, this research found that the broad TCT Model intervention substantively affected the self-determination of students with ID/A over the course of one year, as compared to comparison students engaged in their district's transition services. This is one of the first quantitative studies to examine dual enrollment programs rigorously, and despite the limitations, the overall large effect sizes and statistical significant differences are very encouraging about the positive effect of dual enrollment programs on self-determination, and potentially on longer-term outcomes of employment and/or future college enrollment. Future research will need to be conducted to learn what TCT Model components specifically affect self-determination, and what other long-term effects participation in the TCT Model might have.

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