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The Job Coaching Academy for Transition Educators: A Preliminary Evaluation

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Abstract

There is a growing urgency to equip transition-age students with intellectual and developmental disabilities for competitive, integrated employment. Prior research demonstrates the positive effects of job coaching, yet no known training exists for educators to learn how to provide appropriate employment-related supports to promote student independence and social integration. We conducted a stratified quasi-experimental design to evaluate the efficacy and social validity of a professional development pilot program for 46 transition educators across three school districts. Our findings indicate the Job Coaching Academy contributed to increased feelings of self-efficacy related to job coaching and modest growth in educators' coaching behaviors. We share implications for practice and research in expanding targeted training opportunities for transition educators.

Keywords

transition, job coach, intellectual and developmental disabilities, Workforce Innovation and Opportunity Act, Employment First

As young adults with intellectual and developmental disabilities (IDD) approach the end of high school, many of them aspire to work in the community within inclusive settings. Indeed, any young person has a legal right to employment at businesses and locations that provide the most integrated setting without discrimination. However, opportunities available to young adults with IDD after high school are often limited; only 25.5% of working-age adults with a cognitive disability are employed across the United States (Kraus, 2017).

Recent federal legislation reflects a growing commitment to expand opportunities for young adults with IDD to attain gainful employment. Employment First is a framework for systems-change that is centered on the premise that all citizens, including individuals with significant disabilities, are capable of full participation in integrated employment and community life (Klayman & Coughlin, 2017). In 2012, the Office of Disability Employment Policy launched its Employment First State Leadership Mentoring Program. This represents a major shift in previous philosophical approaches to adult services, transferring priority to competitive employment rather than sheltered workshops and day habilitation sites (Office of Disability Employment Policy, 2019). "Competitive, integrated employment," is defined as "full- or part-time work at minimum wage or higher, with wages and benefits similar to those without disabilities performing the same work, and fully integrated with co-workers without disabilities" (GovTrack.us, 2020).

The Workforce Innovation and Opportunity Act (WIOA, 2014) is intended to increase access to high-quality employment services to support the attainment of competitive, integrated employment as an optimal outcome (Schroeder, 2014; Smith et al., 2017). Specifically, WIOA requires state and local vocational rehabilitation agencies to collaborate with school districts to coordinate transition activities emphasizing competitive, integrated employment. In short, transition-age youth with IDD (ages 14 to 21 years old) must be equipped with the skills to both *attain* and *retain* jobs within integrated settings to prepare for these expanded employment opportunities. Mandated pre-employment transition services (Pre-ETS) include focal areas of employment readiness, social skills, and training in the use of natural supports (e.g., peer mentoring) within the workplace. Specifically, five service categories are funded within

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Pre-ETS: (a) job exploration and counseling, (b) workplace readiness and training, (c) counseling on postsecondary enrollment, (d) instruction on self-advocacy, and (e) work-based learning experiences (WIOA, 2014). Facilitating delivery of these services to students is often the responsibility of special education teachers and paraprofessionals in transition settings, whose responsibilities related to employment skills instruction often mirror job coaching methods (Gilson & Carter, 2018). Transition educators may serve in these roles in classroom settings or via community-based instructional settings, in which students receive employment training at a community jobsite with the direct support of an educator who provides job coaching.

Job coaches provide proximal support intended to strengthen vocational skills in school or community-based work settings (Bennett et al., 2010). Typical job coaching involves the use of strategies such as task analysis, prompting hierarchies, fading techniques (i.e., gradually decreasing levels of support), verbal instruction, physical demonstration, and performance feedback to help students learn job responsibilities (e.g., Monahan et al., 2018; Riesen & Jameson, 2018). When delivered well and withdrawn strategically, job coaching can have a positive impact on students' independent work performance and catalyze long-term success (Gilson & Carter, 2018; Parsons et al., 2001).

The role of a job coach differs drastically than that of a teacher and may not come intuitively to educators accustomed to traditional forms of proximal instruction. For example, the close proximity of a job coach can inadvertently diminish the extent to which students are fully included in the employment context. The near constant presence of someone perceived as a "helper" can cause an unwarranted stigma and hinder social connections (Carter et al., 2008). In addition to scaffolding support, job coaches can help students socially assimilate into the workplace and develop relevant interpersonal skills (Bennett et al., 2010; Gilson & Carter, 2016). Mastery of interpersonal skills, often called "employment-related social skills," prepare new employees to navigate the dynamic nature of the workplace, which greatly differs from a school environment. Employment-related social skills include fluency in interacting with customers and co-workers, requesting assistance from others, and responding appropriately to feedback (Carter & Wehby, 2003; Gilson & Carter, 2018).

Amid high expectations of educators and a growing urgency to equip students for competitive, integrated employment, little training exists for transition educators in these areas. Pre-service and in-service special education teachers report a substantial lack of training overall and knowledge gaps in supporting the school-to-work transition (Blanchett, 2001; Morningstar & Benitez, 2013). Morningstar and Benitez (2013) conducted a survey to measure the transition-related competencies of 557 special education teachers. They found the completion of transition-focused courses and participation in professional development were significantly correlated with the degree to which teachers implemented effective transition practices with high fidelity. In addition to the lack of preparation reported by teachers, paraprofessionals (who typically provide supplemental Pre-ETS support to students in transition settings) often have minimal training of special educational practices overall, with even less expected knowledge base in transition practices (e.g., Blalock, 1991; Rogan & Held, 1999).

Specialized training for transition educators about job coaching is essential due to the highly specific competencies needed to ensure students are ready for competitive, integrated employment (e.g., Bassett et al., 1997; Riesen & Jameson, 2018). That is, if educators aim to equip their students for inclusive employment in the community, they must simulate this setting as much as possible during the school-to-work transition years. However, it is unclear how educators conceptualize the need for training, how they view their roles as job coaches, and the degree to which they understand the importance of providing appropriate supports and fading. There is no known research focusing specifically on the conceptual development and preliminary evaluation of a professional development program for transition educators to strengthen their delivery of Pre-ETS mandates by defining and guiding their work as job coaches.

The purpose of this study was to evaluate a pilot program designed for transition educators to grow as job coaches—equipping their students to become more independent, learn relevant vocational skills, and emphasize employment-related social skills. Our work summarizes the initial efficacy and social validity of a pilot program designed to be one of the first known job coaching training programs specifically for transition educators supporting students with IDD in public high school or district-based transition programs. Specifically, we addressed the following research questions:

Research Question 1: How does participation in the Job Coaching Academy (JCA) influence the views of educators supporting students with IDD in a school-based transition program?
Research Question 2: How do educators view the feasibility of a job coaching intervention?
Research Question 3: How does participation in the JCA affect the proximal coaching behaviors of educators supporting students with IDD in a school-based transition program?
Research Question 4: What coaching strategies do JCA participants use to support their students to learn employment skills?

Table 1. Job Coach Demographics by Treatment and Comparison Groups.

Variable	Treatment group ($n = 25$)	Comparison group ($n = 21$)	All participants ($n = 46$)
Age, *M* (*SD*)	45.3 (14.6)	43.3 (17.1)	44.3 (15.6)
Years of experience, *M* (*SD*)	10.2 (8.8)	6.9 (6.8)	8.7 (8.0)
Position type (count)			
Paraprofessional	14	10	24
Special education teacher	10	10	20
Intervener	0	1	1
Sex			
Female	22	19	41
Male	2	2	4
Highest education			
High school or equivalent	6	2	8
Associate degree	0	3	3
Bachelor's degree	16	13	29
Graduate degree	2	3	5
Racial ethnic background			
Asian/Pacific Islanders (NH)	1	2	3
Latinx/Hispanic	5	5	10
White (NH)	1	12	22
Black (NH)	8	2	10

Note. Two participants did not provide a response for the "Age" variable; one participant did not respond to the "Years of experience," "Position type," "Sex," "Highest education," or "Racial ethnic background" variables. NH = non-Hispanic.

Method

Participants

District demographics. Three school districts in south central Texas participated in the JCA pilot training during the 2018–2019 school year. To be included in the study, districts must have had a pre-existing transition program. All districts met the minimum state standards for standardized testing and graduation rates. The three school districts (henceforth referred to as District 1, District 2, and District 3) were comprised of diverse characteristics, including overall student enrollment size and cultural linguistic diversity of the student population sample.

District 1 enrolled 5,013 total students ($n = 615$ students in special education). About half (54.1%) of the entire student population was eligible for free and reduced price lunch (FRPL). There were 60 special education teachers and 101 paraprofessionals in the district. District 2 enrolled 16,157 total students ($n = 1{,}536$ students in special education). Three quarters (75.0%) of the student population was eligible for FRPL. There were 115 special education teachers and 209 paraprofessionals in the district. District 3 enrolled 34,975 total students ($n = 2{,}678$ students in special education). More than half (56.2%) of the student population was eligible for FRPL. There were 184 special education teachers and 368 paraprofessionals in the district.

Educator and student demographics. A total of 46 transition educators (25 paraprofessionals, 20 special education teachers, and one intervener) participated in this study, henceforth referred to as "job coaches." See Table 1 for demographic summary. Overall, job coaches instructed 131 students. Approximately 64.1% of students were male and 35.9% were female. More than one third (37.4%) were Hispanic or Latinx, 34.0% were White (non-Hispanic), and 26.5% were African American or Black. Most students (72.5%) had a primary diagnosis of intellectual disability, and 20.6% had a primary diagnosis of autism. The remaining students (6.9%) had other primary diagnoses (e.g., emotional disturbance, visual impairment, hearing impairment, or deaf-blindness).

JCA Training and Content Development

We offered the free JCA training twice for each district as an in-service training day for transition educators at a school site in their home district. The treatment group (i.e., group which received JCA) received the training in August prior to the start of the school year. The comparison group (i.e., delayed treatment group) received the training on a staff development day the following January or February. Each training session lasted approximately 6 hr with two short breaks and one lunch break. Job coaches received the training in small groups ranging from 4 to 13 participants per session ($M = 7.8$).

We developed the JCA content by drawing from several sources. First, the lead author conducted a systematic literature review of the efficacy of instructional methods for

employment skills for secondary students with IDD (Gilson et al., 2017). Next, we evaluated the evidence-based practices as designated by the National Technical Assistance Center on Transition (NTACT, 2018). Finally, we consulted the literature to specify the professional development needs of transition educators (e.g., Morningstar & Benitez, 2013). The final JCA content comprised a prologue and three "chapters": (a) The Importance of Early Work Experiences and School-Based Preparation, (b) Establishing Sustainable Independence, and (c) Promoting Inclusive Workplaces. During the prologue, we defined JCA as a way to "prepare students to flourish as independent employees in inclusive, community-based workplaces" and presented an overview of each chapter. We established norms and expectations for the time spent together, including providing a safe space, meeting job coaches and their students wherever they are, and staying in touch throughout the school year. We asked job coaches to come with an open mind, reflect on these ideas honestly and deeply, and commit to actionable change with their students.

In Chapter 1, we shared the legal definition of transition (National Center for Learning Disabilities, 2006, p. 47), provided state and national employment statistics for young adults with IDD, and introduced Employment First and related terminology (e.g., competitive, integrated employment, sheltered employment). Job coaches discussed their fears and concerns related to equipping their students for employment in the community. Next, we defined job coaches, emphasizing the importance of their roles in shaping their students' futures. We grounded this work in a simplified model of the Social-Ecological Understanding of Disability (Luckasson & Schalock, 2013; Simplican et al., 2015), emphasizing disability as a social construct affecting how individuals interact with members of the community (e.g., employers), whereby job coaches facilitate the interactions on both sides. We discussed statistics related to the importance of early work experiences and school-based preparation, including a small group activity in which job coaches shared key takeaways and skills gained from their first employment experiences. We also facilitated an activity titled "Create Your User Manual" (Bryant, 2013) in which job coaches answered a series of questions to define their working styles and establish their identity as a job coach. They shared their manual with colleagues and fellow job coaches.

In Chapter 2, we introduced an overview of employment skills and shared evidence-based practices based on NTACT designations and summaries of previous literature reviews (e.g., Gilson et al., 2017). We provided an overview of work-production-related behaviors and general work behaviors (Carter & Wehby, 2003). We encouraged job coaches to reflect on their own coaching practices in these areas, specifically how their coaching responded to the needs of their students. We explained several common instructional methods in greater depth and modeled examples of each, including prompting hierarchies, task analyses, visual cues, auditory cues, and technology-based approaches (e.g., video modeling).

During Chapter 3, we emphasized the connection between social skills and employment skills, introducing a new term: employment-related social skills (i.e., task-related and non-task-related social behaviors expected in an employment setting). We invited job coaches to review another list of skills focusing on task-related social behaviors and non-task-related social behaviors to evaluate their coaching practices across these areas. We briefly summarized the literature in this area, emphasizing that employers expect their employees to enter the workplace with "job-ready" social skills (e.g., Carter & Wehby, 2003; Ju et al., 2012). We discussed the importance of teaching social skills explicitly and minimizing the use of antecedent prompts and fading appropriately based on students' needs. We also discussed utilizing natural supports (i.e., individuals who naturally exist in school or workplace settings, such as peers or co-workers). We introduced a mnemonic concept called "P times 3" (i.e., prompting, proximity, presence) to help job coaches remember the order of supports to reduce as students become more independent.

During the second iteration of JCA (i.e., after the intervention ended; for the comparison group only), we made several minor amendments to the content in response to feedback from the first training. We added a section and activity focusing on emotional intelligence as a mechanism to respond to student needs (Valente et al., 2019). In addition, we provided job coaches with a brief psychoeducational overview of cognitive-behavioral theory, in which we explained the interconnected role of cognitions, behaviors, and emotions. We then charged job coaches to reflect on how their thoughts and feelings affect how they support students. They participated in written and verbal self-reflection at the beginning and end of each chapter about their current views. We also offered several interactive group activities for job coaches to share ideas with one another (e.g., gallery walk, user manuals, student employment profiles).

After the training session, we explained the timeline of the study and next steps for data collection. After the August sessions only, prior to the first observations, the first author contacted the job coaches in the treatment group for a brief, individual consultation face-to-face or via telephone. During the consultation, job coaches offered feedback about the JCA training and any future recommendations. They shared ideas and resources gained from JCA they intended to put into practice. They also shared their goals for themselves and their students for the school year. Although we did not offer any formal follow-up coaching, we shared our contact information and invited job coaches to reach out with questions. After all trainings concluded,

job coaches received a certificate of completion and a US$25 Amazon gift card.

Measurement of Job Coaches' Views

All job coaches completed an eight-item survey capturing their current views and mindsets related to job coaching. Furthermore, this pilot survey captured job coaches' responses in alignment with the aims of the study and purpose of JCA. This survey was conducted both pre-JCA and post-JCA. The treatment group received the paper survey in August immediately before JCA (i.e., pre-JCA measurement) started, and then again in January (i.e., post-JCA), prior to the training for the comparison group (thus indicating the termination of the intervention period). The comparison group received the survey in August after completing the consent forms and then again in January or February before their JCA training. Statements included (a) I have been trained well on how to be a job coach; (b) I feel effective in my role as a job coach; (c) I feel knowledgeable about the best strategies to use in job coaching; (d) I think student/employee independence is an important part of job success; (e) I think social integration is an important part of job success; (f) Job coaching has a beneficial role in the workplace setting; (g) Most of my students are independent in practicing employment skills; and (h) Most of my students are independent in practicing social skills. We evaluated measures using a 5-point Likert-type scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*).

Furthermore, we assessed internal consistency reliability of the "views of job coaches" instrument. There were six possible groupings of this data set: (a) treatment and comparison groups at pre-JCA, (b) treatment and comparison groups at post-JCA, (c) treatment group only at pre-JCA, (d) treatment only at post-JCA, (e) comparison group only at pre-JCA, and (f) comparison group only at post-JCA. Of the six possible groupings, we assessed reliability only for the treatment and comparison groups pre-JCA. The rationale for this is twofold. First, due to the small sample size of the JCA program, subgrouping treatment and comparison groups would compromise statistical estimation methods and potential statistical inferences. Second, because we used the internal consistency form of reliability, using the pre-JCA group has stronger rationale for internal consistency among all job coaches than post-JCA. To assess reliability, we used coefficient omega, which accounts for potential multidimensionality of an instrument, rather than the more common coefficient alpha. We estimated coefficient omega using a bootstrap method via the *coefficient alpha* package (Zhang & Yuan, 2015) in R (R Development Core Team, 2019) with 10,000 bootstrap samples. Due to the estimation of coefficient omega via a bootstrap method, only job coaches who completed all eight items of the survey were included in the computation of the omega reliability coefficient.

Fidelity Measures

We observed all job coaches in both groups to assess the extent to which they were demonstrating the behaviors emphasized during JCA when they were supporting their students. Specifically, we conceptualized job coach fidelity as a combination of proximity and coaching behaviors. We defined *proximity* as the job coach's body orientation, distance, and position allowing for easy access and interaction with the student (i.e., less than 5 ft away). *Coaching behaviors* included (a) praise (i.e., affirmative prompt that provides support for the work or task performed); (b) antecedent (i.e., instructional prompt giving student directions before an attempt); (c) correction (i.e., remedial prompt providing additional support after an attempt); and (d) question/redirection (i.e., "comprehension check" prompt assessing student understanding).

Job coaches demonstrated fidelity by fading proximity after delivering basic instructions of the task procedure (yet still visible to the student and close enough in distance to assist the student if necessary), and coaching the student as needed (e.g., issuing prompts responsive to attempts, such as corrections, praise, or questions, rather than antecedents). After the task procedure, job coaches established fidelity by returning to proximity and summarizing student performance. In addition to job coach fidelity, we also recorded the proximity of natural supports to students before, during, and after the task procedure. Natural supports varied by the setting, but examples included classmates (i.e., students with disabilities in the same class), peers (i.e., students of approximately the same age without disabilities), co-workers, supervisors, and customers. Observers circled which type of natural supports were in proximity based on the aforementioned list. They could circle "other" and write the type of natural support not listed.

Observers and Observational Procedures

We collected observational data for each job coach three times. The first timepoint, conducted by a single observer, intended to capture the job coach behaviors for both groups after only the treatment group received the JCA training. This was repeated in Timepoint 2 about 2 months later to assess interobserver agreement (IOA). Timepoint 3 occurred after both groups had received the training as maintenance data. Table 2 includes the data collection timeline.

Observers collected data at the start of a task procedure for a minimum of 10 min and continued until its completion (M = 10.8 min, range = [10 min, 22 min]). We coordinated with the job coaches to schedule observations in advance,

Table 2. Data Collection and Activity Timeline.

	Month									
Data collection	August	September	October	November	December	January	February	March	April	May
Pre-survey data collected	D1 D2 D3				—					
Treatment group intervention	D1 D2 D3				—					
Timepoint 1—Initial observation		D3[t]	D1[t] D2[t] D3[t]	D1[t] D2[t] D3[t]	—	D2[t]	D1[c] D2[c] D3[c]			
Post-survey data collected					—	D3[t]	D1[t] D2[t]			D1[c] D2[c] D3[c]
Timepoint 2—IOA			D1[t] D3[t]	D1[t] D2[t] D3[t]	—	D2[t]		D1[c] D2[c] D3[c]	D2[c]	
Comparison group intervention					—	D3	D1 D2			
Timepoint 3—Follow-up					—		D3[t]	D1[t] D2[t] D3[t]	D1[c] D2[c] D3[c]	D2[c]

Note. D = district; IOA = interobserver agreement.
[t] = treatment group; [c] = comparison group.

so they were not surprised when we arrived. If any extenuating circumstances arose before or during a scheduled observation (e.g., student behavior interruption, unavoidable school incident, teacher absence), the observer(s) noted this and rescheduled the observation for a later date.

Observer training. An assistant professor of special education, two doctoral students in educational psychology, and one undergraduate research assistant in special education collected observational data for this study. Prior to live data collection, observers participated in a 2 hr training on the purpose of the project, procedures, data collection system, and coding manual. The manual included operational definitions, examples, and non-examples for each measure. After reviewing the coding manual, observers independently watched five video clips and practiced recording data. Before conducting live observations, observers demonstrated their readiness in two ways. First, they needed to attain an average reliability score of 90% across all videos in alignment with a master data sheet completed by the first author. Next, they needed to attain at least 90% on a 10-item quiz assessing their knowledge of the coding manual.

Observational data collection procedures. All timepoints followed the same procedures using the same measurement tool. First, observers recorded general data (e.g., time of day, identifier code, setting, number of students assigned to the job coach) and contextual information (e.g., whether the job coach was in proximity to their students, if natural supports were present, any interpersonal interaction between students and natural supports). Before the task began, observers recorded the expected task, whether the job coach directed the student (indicated by a yes/no response), and the coaching strategy used. Five minutes later (recorded using an electronic timer), observers collected contextual data again at the midpoint of the observation (e.g., if natural support was in proximity, if job coach was in proximity, if job coach practiced fading). At the end of the task procedure, observers collected the same contextual data one more time. Post-task data also included a summation of proximity indicators (i.e., tally total of how many of the three instances the job coach was in proximity). Observers recorded general observation notes about the nature of job coaching and noted any interactions with natural supports. Table 3 provides a summary of the measures collected during each observation.

IOA. Two observers collected data simultaneously at least once for each participant (i.e., 34.3% of total observations). We calculated IOA for the following measures: proximity, natural supports, coaching occurrence, and coaching behaviors. We calculated percentages of agreement by dividing the number of agreements by the total number of possible agreement areas for each measure. The overall average IOA for each measure across the three districts were 97.6% for proximity, 93.1% for identifying natural supports, 95.6%

Table 3. Observational Data Collection Procedure Across a Task Procedure.

Observational measure	Pre-task data	Data Point 1 Beginning of task (0:00)	Data Point 2 Midpoint of task (~5:00)	Data Point 3 End of task (~10:00)	Post-task data
Time recorded (date, time, day of the week; time)	X	X	X	X	
JC identifiers (ID code, role, setting)	X				
Number of students per job coach	X				X
Job task assigned	X				
JC proximity to students (Y/N and how many students)	X	X	X	X	
Natural supports in proximity (i.e., classmate, peer, co-worker, supervisor/manager, customer/other, none)	X	X	X	X	
Did coaching occur? (Y/N)		X		X	
If yes, who/what provided coaching? Modality (i.e., job coach, natural support, technology)		X	X	X	
JC coaching strategies used (i.e., praise, antecedent, correction, question/redirection)					
Did the JC fade proximity across the task? (Y/N)		X	X		X
Sum proximity indicators (range = 0–30)					X

Note. All measures required open-ended responses, except when noted Y/N or "i.e." with specific response options. JC = job coach; ID = identification; Y = yes; N = no.

for coaching behaviors, 92.6% for job coach fading, and 100% for job coaching occurrence. IOA observers were blind to treatment conditions.

Observational settings. Observational settings varied across districts. In addition to traditional classrooms, we observed job coaches on campuses supporting students in school-based enterprises and vocational training activities, such as (a) mobile coffee carts, (b) assembly line manufacturing tasks, (c) student store, (d) school cafeterias, (e) kitchen living spaces, and (f) simulated apartment settings. We also observed job coaches in off-campus community sites, such as (a) restaurants, (b) hospital, (c) retail clothing stores, (d) secondhand resale establishments, (e) grocery stores, (f) food pantry, (g) commercial kitchen, and (h) hardware store.

Measurement of Social Validity

Job coaches also completed an anonymous questionnaire asking specific questions about the impact, acceptance, and feasibility of JCA on their work with students. We used the same Likert-type scale to assess the following items: (a) The strategies of job coaching I learned fit well in the workplace setting; (b) My students benefited socially from this intervention; (c) My student's job independence increased as a result of this intervention; (d) I will continue to use these strategies after the study ends; and (e) Overall, I enjoyed participating in this project.

In addition, we asked three open-ended questions to capture detailed feedback: (a) What are some experiences that went well for you when implementing the JCA strategies with your student(s)? (b) What are some experiences that could have gone better for you when implementing the JCA strategies with your student(s)? and (c) What (if anything) has changed for your student(s) based on your participation in JCA?

Program Design and Data Analysis

The study used a quasi-experimental design with two groups (treatment and comparison). Sampling procedures occurred over several stages. In the first stage, we divided job coaches into three mutually exclusive groups based on their school district. There was no crossover of job coaches across the three school districts. In the second stage, within each school district, we randomly allocated job coaches to a treatment group (i.e., receive JCA training in August) or comparison group (i.e., receive JCA training post-intervention period in January or February). This was completed by randomly assigning a job coach to either 0 (treatment group) or 1 (comparison group). This process was completed for all job coaches, which meant that educators from the same district and teaching team could be separated from one another. Figure 1 provides a timeline of screening, randomization, allocation, and data collection, adapted from CONSORT recommendations (Moher et al., 2003).

We conducted descriptive statistical analyses and inferential statistical tests. Given the sample size and the ordinal format of our survey questions, we used nonparametric statistical tests (see, for example, Hollander et al., 2014). For within-sample tests (i.e., comparing job coaches before JCA to themselves after the JCA), we used Wilcoxon signed-rank tests. Assumptions of the Wilcoxon signed-rank test (paired

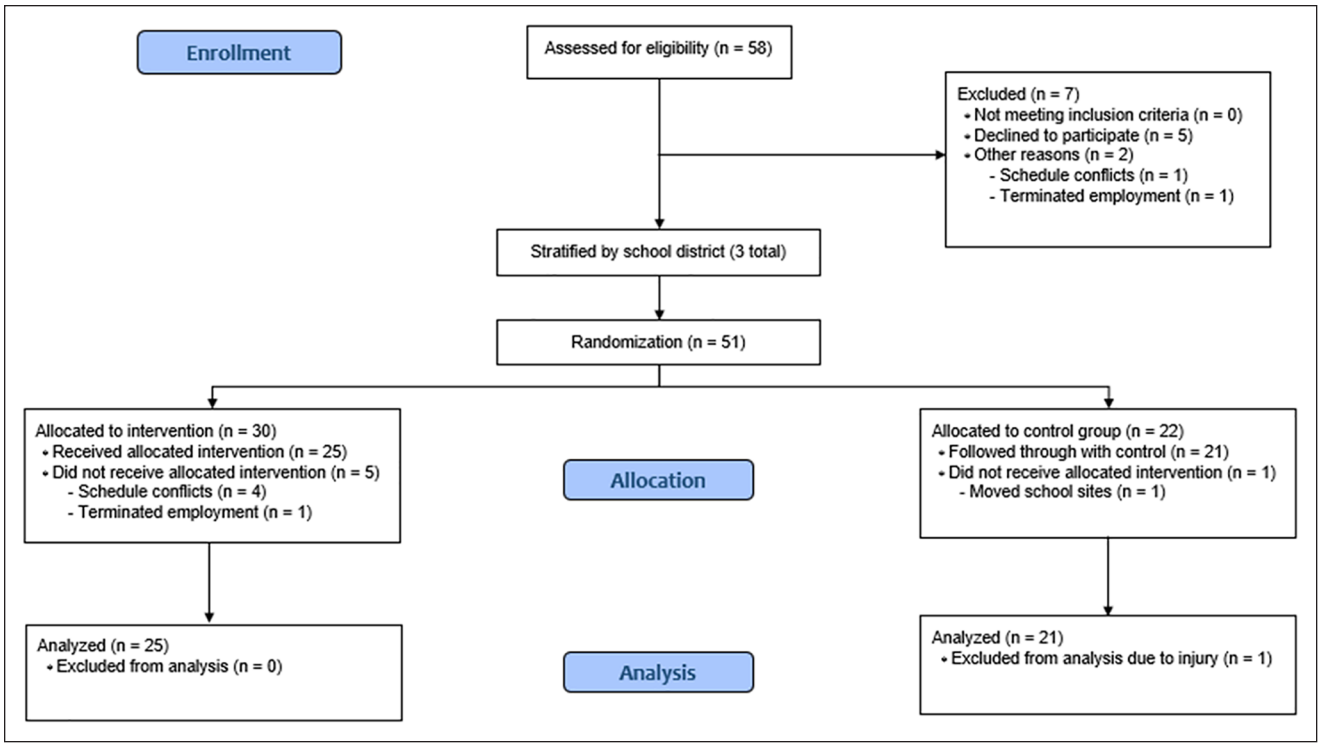

Figure 1. CONSORT flowchart of participants.

data, independence of pairs, and measures on an ordinal scale) were considered satisfied. Finally, we conducted all descriptive statistics and null hypothesis significance testing in IBM SPSS (IBM Corp, 2016).

Results

We present our results in alignment with our research questions. In general, our findings indicate that participation in JCA demonstrated modest effects on views of job coaching and views of training, but it did not produce a measurable effect in job coach fidelity.

Research Question 1: Coaching Views

To answer Research Question 1, which assessed our main dependent variables, we used both descriptive and inferential statistics. First, we compared the responses of job coaches across the eight items prior to the JCA with post-JCA implementation for both groups. We used the ordinal responses to the eight items assessing coaching views as our dependent variables. Results from all Wilcoxon signed-rank tests were statistically significant at the $\alpha = .01$ level, indicating changes in views across time for both groups. Table 4 provides the percentage of responses that were "agree" or "strongly agree." Particularly for the treatment group, several questions pertaining to self-efficacy ("I have been trained well on how to be a job coach," "I feel effective in my role as a job coach," and "I feel knowledgeable about the best strategies to use in job coaching") increased by more than 40% in agreement. The internal consistency reliability for both groups prior to the JCA was .722 with a bootstrap confidence interval of [.404, .830].

Research Question 2: JCA Social Validity

To address Research Question 2, we focused on descriptive characteristics of the data. When assessing how job coaches viewed the feasibility of JCA, we assessed general results for each item and their response breakdown by cell (e.g., "neutral" vs. "agree"). Job coaches reported high degrees of satisfaction and feasibility as JCA participants. Table 5 provides a summary of social validity responses.

For the open-ended responses of the survey, job coaches reported perceiving positive changes in their students' independence and social skills acquisition after implementing the recommended tools and strategies in JCA. In addition, job coaches reported a perceived increase in self-confidence in their students when job coaches exhibited intentional fading and decreased proximity. One respondent stated their students now demonstrate "confidence to ask questions when they don't understand the task." Another noted, "[My students] have grown so much in their teamwork and independence." A third job coach wrote, "[My students] have received, I think, better teaching on my part."

Table 4. Summary Agreement of Job Coaching Views.

	Pre-JCA		Post-JCA	
Statement	Treatment (%)	Comparison (%)	Treatment (%)	Comparison (%)
I have been trained well on how to be a job coach.	42.8	45.5	88.0	65.0
I feel effective in my role as a job coach.	57.2	72.7	100.0	71.4
I feel knowledgeable about the best strategies to use in job coaching.	46.4	40.9	96.0	71.4
I think student/employee independence is an important part of job success.	88.9	95.5	100.0	100.0
I think social integration is an important part of job success.	85.2	95.5	100.0	100.0
Job coaching has a beneficial role in the workplace setting.	100.0	95.5	100.0	100.0
Most of my students are independent in practicing employment skills.	14.3	9.1	48.0	23.8
Most of my students are independent in practicing social skills.	25.0	13.6	56.0	23.8

Note. Results are percentages of participants who responded with either "agree" or "strongly agree." JCA = Job Coaching Academy.

Table 5. Summary Agreement of Social Validity.

Statement	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)
The strategies of job coaching I learned fit well in the workplace setting.	0.0	1.8	1.8	41.1	55.4
My student benefited socially from this intervention.	0.0	1.8	10.7	41.1	46.4
My student's job independence increased as a result of this intervention.	0.0	3.6	10.7	53.6	32.1
I will continue to use these strategies after the study ends.	0.0	1.8	0.0	35.7	62.5
Overall, I enjoyed participating in this project.	0.0	3.6	1.8	23.2	69.6

Note. The item "Overall, I enjoyed participating in this project" had one missing response.

Research Question 3: Proximal Coaching Behaviors

For Research Question 3, we employed both descriptive and inferential statistics. For inferential analyses, the dependent variable was *approximated proximity*, using observational data collected at the midway point of the task procedure. Both the treatment group and comparison groups saw statistically significant differences between Timepoints 1 and 2 (both occurred after only the treatment group had received JCA). For the treatment group, the Wilcoxon signed-rank test result was $W = 1{,}209.0$, $p < .001$, and for the comparison group was $W = 875.0$, $p < .001$. We observed similar results (using the same dependent variable of approximated proximity) when comparing Timepoint 1 and Timepoint 3 (after both groups had received JCA). In other words, this represents an overall decrease in job coach proximity to their students over time. In addition, we were interested in whether job coaches faded proximity while remaining visible and available to support students. Over the course of the JCA (i.e., moving across Timepoints 1 to 2 to 3), for the entire sample, we saw a steady increase in this frequency of job coach fading, approximately 54% at Timepoint 1, 63% at Timepoint 2, and 74% at Timepoint 3.

Research Question 4: Coaching Strategies

Research Question 4 focused on descriptive characteristics of the data. We categorized the types of strategies used by job coaches. Our measurement tool provided four strategies: praise, antecedent, correction, or question (or any combination of the four). Because the JCA training focused on minimizing antecedents to students after the initial teaching stage, we were interested if job coaches reduced usage of antecedents. However, our findings did not demonstrate a noticeable decrease of antecedents over time.

The most common combination of coaching strategies was all four used together (antecedent, praise, correction, and question). Both the treatment and comparison groups increased their use of all four coaching strategies pre-JCA to post-JCA, with a slightly larger increase in the treatment group. The second most popular combination of coaching strategies was antecedent, praise, and question. Both groups saw decreased usage of this specific combination of coaching strategies when comparing pre-JCA with post-JCA, with a more pronounced decrease in the treatment group. The remaining combinations of coaching strategies either were never present (i.e., no job coach used a particular

combination) or negligible (e.g., only one or two job coaches used a particular combination).

Discussion

We examined the effects of the JCA pilot training on the views and behaviors of special education teachers and paraprofessionals in transition settings over one academic year. Overall findings indicate that JCA contributed to the educators' reported growth in their coaching behavior and their students' perceived increases in independence and social skills. This preliminary evaluation provides several important contributions to the field, specifically in educator development and student preparation for competitive, integrated employment.

First, our findings reaffirmed those of other studies (e.g., Morningstar & Benitez, 2013), demonstrating a critical gap in the training and support needs of educators charged with preparing students with IDD for integrated employment after high school. Both teachers and paraprofessionals acknowledged the need for job coaching in the lives of their students, but they reported a lack of knowledge of best practices in this area. Prior to JCA, only 46.4% of job coaches answered affirmatively that they were well-equipped with the "best strategies to use as a job coach." Similarly, 57.2% of job coaches indicated, "I feel effective in my role as a job coach." Afterward, the treatment group reported an increase to 100% and 96%, respectively. After completing JCA, job coaches credited the training with personal skill development and strategy acquisition. They indicated an increase in feelings of self-efficacy related to their ability to coach students in social and job-related tasks. Job coaches reported perceived increases in student independence and fluency in employment-related social skills.

Second, results from social validity measures revealed that the job coaches viewed the JCA training as beneficial for both their learning and that of their students. The JCA training was able to support job coaches, who then felt better equipped to support students in transition as they prepare for inclusive employment opportunities. Prior research indicates that job coaches need specialized training to teach job skills effectively to students (e.g., Riesen & Jameson, 2018). Most job coaches indicated the JCA training was a welcome addition to their professional development. In particular, JCA training helped fill the dire need for knowledge of evidence-based practices in transition, given the limited time and resources often available (Hart Barnett & Crippen, 2014). Job coaches reported their intent to continue to use these new techniques in the future. The burgeoning promise of JCA suggests a more pronounced need for similar trainings for educators to ensure they are equipped to teach their students the skills needed to prepare for integrated employment.

Third, our findings presented interesting revelations regarding the ways in which job coaches applied the strategies acquired with "fidelity," although these differed greatly from our initial expectations in designing the training. As most job coaches progressed through the school year, their coaching styles advanced into a nuanced manner that provided appropriate scaffolding of support for their students. For the treatment group, overall coaching increased from 40% to 64% between Timepoints 1 and 2. Although we initially hypothesized that job coaches would fade antecedent prompts in exchange for more conditional prompts (i.e., when students indicated a need for support), such as corrective or redirecting questions, we instead observed many job coaches evolved their practice by combining coaching strategies, rather than relying solely on antecedent prompting. Similarly, although we expected that job coaches' proximity would decrease over time as their students became more independent in job tasks and more socially integrated in the workplace settings, we instead observed that proximity often did not change for job coaches, but rather their coaching adapted to a new form as their students became more proficient. Although this complexity challenged the extent to which observers could capture fidelity accurately using the initial measurement tool, it elucidates shortcomings in relying solely on researchers' conceptualization of fidelity and invites us to consider involving practitioners directly in the refinement of future measurement tools.

We also hypothesized fidelity could be executed consistently across time, settings, students, and skills. However, observers noted much variability in each of these realms, even across the same job coaches. Put simply, context matters. To deepen our understanding of what successful job coaching looks like and how to measure it well across people and platforms, we recommend future researchers adopt tools based on improvement science. Improvement science uses principles of disciplined analysis and rigorous inquiry to ensure "effective instantiation of complex practices at scale and across contexts" (LeMahieu et al., 2015, p. 446). This represents a pragmatic focal shift when designing future professional development and research opportunities for transition educators, wherein the overall aim is to answer, "What works, for whom, and under what conditions?" (LeMahieu et al., 2015).

Limitations and Implications for Future Research

Several limitations to this study provide pathways for future research. First, because the pilot training focused only on job coach behavior and views, we did not examine whether it had any direct effect on student behaviors beyond what job coaches reported in their post-surveys. Future research should incorporate student behavioral outcomes in observations of job coach behaviors to provide stronger implications for student growth in independence and social skills.

Second, we encountered several issues with the researcher-created measurement tool to capture job coach fidelity and the presence of natural supports. As we used a dichotomous response option (i.e., yes or no) for proximity measures for job coaches and natural supports, we were unable to collect detailed information about the quality of these supports. A similar issue existed with the measurement of job coach proximity and multiple students (e.g., if a job coach faded proximity with one student but was still in proximity of another student at the next measurement point, it would appear that the job coach never faded proximity from that original student). Thus, because most job coaches supported multiple students for each task, the tool did not always yield an accurate picture of the job coach's fading of supports. There were also issues with the measurement length. Although most observations of task procedures were 10 min in length, there was one outlier that spanned 22 min due to intermittent behavioral issues during a long task procedure. This unplanned feature does produce an increased amount of measurement error. We share these important lessons gained from the pilot study for consideration when revising the tool for future use. Future iterations of fidelity measurement should include multiple simulations across settings and consultation with practitioners, and incorporate longer observations to increase accuracy and specificity.

Third, although we consider the diversity of settings and contexts to be an asset of our study, the variability presented issues with data collection. Specifically, we conducted 68% of observations in the classroom or school setting and only 32% in a community-based employment setting. As job coaches supported multiple students across multiple tasks and often across multiple settings, observation settings may have varied across time for the same job coach. Because there are inherently different issues in each setting type (e.g., pace, fluidity, opportunity for natural supports), it might have been more appropriate to use different observational measures for each setting. Future research should incorporate a measurement tool that is adapted specifically to meet the dynamic contexts in transition.

Fourth, although we took concerted efforts to ensure we had adequate representation of job coaches in each group across each district, the nature of the stratified random sampling method may have increased the possibility of confounding data. For example, dyads and triads of educators from the same district or teaching team were separated into different training groups. However, it is likely that teachers who participated in JCA first could have passed along some of their newly acquired strategies to their paraprofessionals, given the critical shortage of training. As we did not explicitly warn job coaches against sharing their knowledge, it is possible that some paraprofessionals in the comparison group had early access to the material presented in JCA. Future research should structure sampling procedures such that educators do not share content until post-intervention or must agree to participate as a team.

Finally, we recognize several issues affecting the design of the study. For example, there was no direct comparison of the two cohorts at the same timepoints, other than the pre-JCA survey. For most variables, measures occurred at different points concurrent with implementation of the intervention for the specific group. In addition, we had a relatively small sample to evaluate ($n = 46$). While this is somewhat expected given that the JCA was considered as a pilot study to inform larger scale use, small sample sizes can affect statistical inferences. Although we made efforts to combat this issue (e.g., bootstrap estimation for reliability and nonparametric statistical tests), we recommend caution when interpreting results of our inferential analyses. Finally, with respect to the validity, we could not feasibly assess validity within the scope of a small-scale pilot study. Future research should expand on this pilot iteration with larger sample sizes and parallel data collection timelines for both groups, to provide additional validation for JCA as an effective venue for training job coaches.

Implications for Practice

Our findings will likely resonate with a multitude of stakeholders, including educators, job coaches, administrators, students, employers, and policymakers. First, special education teachers and paraprofessionals in transition settings can apply the practical and philosophical takeaways to their daily practices. For example, it is possible to "do more" by "doing less" (i.e., reduce availability to students to facilitate long-term independence). Fading support and proximity is often not intuitive to educators who might operate under the assumption that more support is better. Furthermore, the findings suggest that changing mind-sets can shape job coach and student behavior. For example, job coaches can empower students with disabilities to be independent and inclusive in school-based employment settings, which will ultimately translate to greater competence and confidence in community-based employment settings.

Second, school administrators should heed the sense of urgency expressed by the educators in this study reporting a dire lack of training in job coaching. The JCA training increased teacher and paraprofessional familiarity with the title and concept of job coach, and each participant received a certificate of completion from JCA. While a certificate of completion does not hold weight as a credential, it is evidence of investment into transition personnel. Given the requirement of districts to report post-school engagement data for all exiting students with disabilities, administrators are accountable to student employment outcomes. Investment in educator training is an important way to demonstrate long-term investment in their students.

Third, JCA is meaningful for students as well as educators. When job coaches are well-equipped, their students, regardless of disability label, can learn new skills and grow in a safe, supported space that simulates the workplace.

Participating job coaches reported perceived gains in student independence and increased social integration when they faded their proximity and promoted interactions with natural supports. In addition to the employment setting, these skills can translate readily into home life, recreational activities, and community living.

Finally, JCA can provide a blueprint model for vocational rehabilitation support providers who serve as job coaches to adults with disabilities. The strategies incorporated at the training can also extend to the growing number of employers willing to hire individuals with IDD. With proficient job coaches and supported employment specialists, employees become independent more quickly and thus assimilate quicker into the inclusive workplace. With independent students and prepared job coaches, we can begin to change workplace norms and attitudes toward inclusion and acceptance of employees with IDD.

Conclusion

Equipping transition educators to support students with high levels of competence, high levels of acceptance, and limited researcher oversight is essential to ensuring replication and sustainability in the age of Employment First. The goal of this pilot study was to evaluate the efficacy and social validity of targeted professional development of job coaches across an entire school year. Our findings indicate promise for the JCA to shape the mind-sets and performance of transition educators to yield long-term success in inclusive employment settings for their students.

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