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Enhancing the Career Planning Self-Determination of Young Adults with Mental Health Challenges

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Abstract

The impact of an intervention on the self-determination and career planning engagement of young adults with mental health challenges was studied. Sixty-seven young adults, 20 to 30 years of age, with mental health diagnoses (e.g., depression, bipolar disorder) were randomly assigned to intervention and control groups. Statistically significant greater increases were made by the intervention group versus the control group for self-determination and career planning engagement, and self-determination at least partially mediated increases in career planning engagement. With career planning self-determination interventions, young adults with mental health challenges might be able to achieve better career and life outcomes than is typical for this population.

Introduction

There is growing recognition that individuals in their 20s represent a distinct developmental period between adolescence and adulthood, and experience unique challenges as they attempt to establish their life paths (Arnett, 2000; McLean & Pratt, 2006). Many young adults with behavioral health issues struggle to meet these challenges, and spend their adulthood dependent on government and family assistance (Sowers & Wood, 2012; Walker, 2015).

Self-determination has been identified as a predictor of positive life outcomes for individuals with disabilities (Carter, Trainor, Owens, Sweden, & Sun, 2010; Chambers et al., 2007). Wehmeyer (1992) defined self-determination as "acting as the primary causal agent in one's life free of undue external influence or interference" (p. 305). Wehmeyer (1999) identified elements of self-determined

behaviors from various conceptual and theoretical frameworks:

- Behavioral autonomy (choice making, decision making) from developmental psychology (Damon, 1983; Sigafoos, Feinstein, Damond, & Reiss, 1988).

- Self-regulated behavior (problem solving, goal setting and attainment, self-observation, self-evaluation, self-reinforcement, self-instruction) from social cognitive theory (Bandura, 1997; Whitman, 1990).

- Psychological empowerment (problem solving, self-advocacy and leadership, internal locus of control, positive attribution self-efficacy) from community psychology and social cognitive theory (Rotter, 1966; Whitman, 1990; Zimmerman, 1990).

- Self-realization (self-awareness) from theories of human motivation (Maslow, 1943).

Research has demonstrated that the self-determination of high school students with disabilities, including those with behavioral and emotional challenges, can be enhanced by teaching them its component skills (e.g., goal setting, problem solving), encouraging them to believe in their capacities, and increasing their opportunities to experience goal achievement success (Geenen et al., 2013; Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2013). The positive impact of transition programs that include self-determination promotion components on postschool outcomes for high school students with behavioral and emotional challenges has also been shown (Geenen et al., 2013; Karpur, Clark, Caproni, & Sterner, 2005). In addition, studies have evaluated interventions designed to increase the career self-determination behaviors of adults with disabilities, including those with mental health diagnoses (Farley, Bolton, & Parkerson, 1992; Harnett, Collins, & Tremblay, 2002).

The self-determination career development model (SDCDM) was developed to teach individuals with disabilities self-determination skills, and to apply these skills to identifying and pursuing career goals (Wehmeyer et al., 2009). The SDCDM is based on Wehmeyer's (1999) conceptual framework of self-determination. Using nonexperimental research designs to evaluate the SDCDM, participants made gains on the number of job-related goals, which they set and attained (Benitez, Lattimore, & Wehmeyer, 2005; Wehmeyer, 2010; Wehmeyer et al., 2003; Wehmeyer et al., 2009).

To date, no self-determination intervention research has focused on individuals who are in the unique developmental period of their 20s, when they are no longer teens but are not yet fully adults (Sowers & Wood, 2012). The purpose of this study was to evaluate the impact of an adaptation of the SDCDM intervention on the self-determination and career planning engagement of young and emerging adults with mental health challenges. It was hoped that this study would add to the literature on self-determination for people with disabilities, and to offer evidence specific to young adults with behavioral and emotional challenges. Powers et al. (2012) found that self-determination at least partially mediated participants' quality of life. In this study, an evaluation was conducted of the extent to which self-determination increases mediated career planning engagement.

This study also explored the extent to which several components of self-determination, including self-efficacy, empowerment, and recovery, would be affected by the intervention. Career-related self-efficacy has been shown to predict employment outcomes and to be responsive to interventions for individuals without disabilities (Betz, Klein, & Taylor, 1996). Research has found that the goal achievement confidence (i.e., self-efficacy) of people with disabilities can be enhanced (Powers, Sowers, & Stevens, 1995). Empowerment and recovery are two constructs associated with self-determination and frequently used in the mental health consumer literature (Geenen et al., 2015).

Hypotheses and research questions

The following hypotheses were tested:

1. Career Visions intervention participants will make significantly greater gains than those in the control group on their level of measured self-determination.

2. Career Visions intervention participants will make significantly greater gains than those in the control group on their level of measured career planning engagement.

3. Levels of self-determination will mediate, at least partially, career planning engagement outcomes.

The following research questions were evaluated:

1. To what extent do intervention participants demonstrate significant gains on measures of self-efficacy, empowerment, and recovery compared to those in the control group?

2. How satisfied are participants who perceive that they benefitted from the intervention?

Methods

Participants and recruitment

Individuals eligible for study participation were 20 to 30 years of age at baseline and had received mental health services in the prior 2 years. Recruitment was conducted at mental health and other social service agencies, and colleges. Each person was provided a description of the study and those who decided to participate provided consent using an institutional review board approved protocol and form. A study description was provided to 75 individuals; 67 (89%) consented and completed baseline assessments. Participant demographics are provided in Table 1. The Brief Symptom Inventory (BSI) asks respondents to rate how much (0 = *not at all* to 4 = *extremely*) during the past week they were bothered by various symptoms (Derogatis & Spencer, 1982). A BSI score greater than or equal to a T score of 63 is clinically significant. BSI was used to describe participants only.

Design

A 2 (independent groups) × 4 (repeated measures) design was used. Participants were randomly assigned to the intervention or control condition. Cohorts of participants were recruited and then randomly assigned to and began with the intervention or control group at different intervals throughout the study. A stratified random sampling technique was used to ensure the number of individuals in the two study conditions were similar for gender identity and age (20–25.5, 25.5–30 years).

Data collection and dependent measures

As shown in Table 2, instruments were administered at baseline to both groups, and for those in the intervention condition after the first 12 meetings (Time 2) and the next 18 meetings (Time 3), and 6 months after the Time 3 assessment (Time 4). For control group participants, the time between assessments was yoked to when assessments were conducted for the intervention participants in the same cohort. Assessments were conducted by a project staff and graduate research assistants. The completion of the assessment took about 2 hr. Participants received a $30 cash incentive.

The Adult Version of the ARC Self-Determination Scale (SDS) is com- prised of 72 items (Wehmeyer, 1995). A total of 148 points are available on the scale, with higher scores indicating higher levels of self-determination. The instrument is comprised of five sections. In Section 1, respondents use a 4-point Likert scale ranging from 1 (*I do not even if I have a chance*) to 4 (*I do every time I have a chance*) to rate how often they choose to independently perform 32 living skills (e.g., I do chores in my home). In Section 2, five real-world scenarios are posed, beginning with a problem situation and ending with a solution (e.g., Beginning: You hear a friend talking about a new job at the local bookstore. You decide you would like to work at the bookstore. Ending: You are working at the store). Respondents describe what they would do in the situation to achieve the solution. Scoring guidelines are provided by the test developers, which specify a range from 0 to 2 based onthe thoroughness of the answer provided. Two staff unaware of the condition to which participants were assigned reviewed the answers and agreed on the score that was assigned to each answer. In Section 3, respondents are asked if they have a 5-year goal in the areas of career, living arrangement, and transportation mode, and if so to indicate what it was and up to four steps that they would take to achieve that goal. Scoring guidelines provided by the test developers specify a scoring range of 0 to 3, with a 0 for no goal, and points added based on identification of a goal and number of steps to achieve the goal. Two staff reviewed and agreed on the score that was assigned to each item. In the fourth section, comprised of 16 items each with two statements, participants choose which statement best describes them (e.g., "Trying hard at work doesn't do me much good" or "Trying hard at work will help me get a good job"). In the fifth section, comprised of 15 self-description statements (e.g., "I am confident in my abilities"), respondents indicate if each statement is true or not true about them. Criterion-related validity with the Nowicki–Strickland Internal-External Scale (Nowicki & Duke, 1974) was significant, p = .01. Coefficient alpha was .92.

Table 1. Participant demographics

Characteristics	Intervention				Control			
	N	%	M	SD	N	%	M	SD
n	34				33			
Gender								
Female	15	44.1			13	39.4		
Male	19	55.9			19	57.6		
Transgender	0				1	3.03		
Age			25.03	2.96			24.97	3.52
Race[a]								
American Indian / Alaskan Native	1	2.9			3	9.1		
Asian / Pacific Islander	2	5.9			3	9.1		
Black or African American	3	8.8			1	3.0		
White	28	82.4			25	75.8		
Other	0				1	3.0		
Hispanic or Latino	2	5.9			3	9.1		
Brief Symptom Inventory Mental health diagnosis[b]	77.7				78.5			
Depression	24	70.6			16	48.5		
Anxiety	22	64.7			22	66.7		
Bipolar	14	41.2			14	42.4		
Schizophrenia	7	20.6			2	6.1		
ADHD	10	29.4			13	39.4		
PTSD	10	29.4			8	24.2		
Schizoaffective	7	20.6			4	12.1		
Asperger's / autism	3	8.8			4	12.1		
Other	15	44.0			20	60.6		
# of diagnoses			3.32	1.68			3.21	2.23
Other disabilities	21	61.8			23	69.7		
Drug / alcohol treatment	14	41.2			7	21.2		
# who have children	7	20.6			6	18.2		
Criminal justice system	22	64.7			19	57.6		
Education[c]								
Special education	9	26.5			11	33.3		
HS diploma/GED	27	79.4			31	93.9		
Attended college	21	61.8			21	63.6		
Completed degree	6	17.7			5	15.2		
Jobs held			3.09	1.76			2.85	1.75
SSI/SSDI	11	32.4			12	36.4		
Live with parents	12	35.3			16	48.5		
With children	7	20.6			6	18.2		

Note: ADHD = attention deficit hyperactivity disorder; PTSD = posttraumatic stress disorder; HS = high school; GED = general education diploma; SSI/SSDI = Social Security Insurance/Social Security Disability Insurance.

[a,b,c] Participants were asked to indicate all of the categories that applied for race, mental health diagnoses, and education level.

Table 2. Raw means and standard deviations

Variable	Time 1			Time 2			Time 3			Time 4		
	N	M	SD	N	M	SD	N	M	SD	N	M	SD
ARC SDS												
Intervention	34	89.50	19.71	27	103.81	15.86	24	112	19.89	20	106.11	19.32
Control	33	99.33	19.72	29	98.79	20.67	21	99	20.95	16	97.86	22.97
CPAE												
Intervention	34	5.59	5.26	27	17.48	4.37	24	18.63	6.21	20	9.75	6.87
Control	33	5.24	5.18	29	6.79	5.94	21	6.29	5.39	16	1.93	3.20
CDSE												
Intervention	34	76.41	15.33	27	92.07	15.14	24	100.08	17.69	20	99.65	14.63
Control	33	82.39	17.67	29	85.28	22.15	21	87.24	19.91	16	88.69	17.87
DCSE												
Intervention	34	22.68	3.29	27	24.52	4.41	24	25.96	4.07	20	25.20	3.66
Control	33	24.09	3.94	29	25.04	5.34	21	23.95	4.80	16	23.44	5.76
MHRM												
Intervention	34	3.53	.55	27	3.64	.55	24	3.93	.47	20	3.86	.52
Control	33	3.68	.58	29	3.70	.80	21	3.60	.73	16	3.58	.73
CES												
Intervention	34	3.42	.42	27	3.55	.38	24	3.75	.49	20	3.74	.43
Control	33	3.59	.46	29	3.51	.56	21	3.59	.53	16	3.47	.51

Note: ARC SDS = ARC Self-Determination Scale; CPAE = Career Planning Activity Engagement; CDSE = Career Decision Self-Efficacy Scale–Short Form; DCSE = Disability-Related Career Self-Efficacy Scale; MHRM = Mental Health Recovery Measure; CES = Consumer Empowerment Scale.

The Career Planning Activity Engagement (CPAE) form was developed for this study to obtain a count of the number of career development activities in which participants engaged. Participants were asked if they had engaged in each of 60 activities during the prior 3-month period. The items for the instrument were derived from a review of the literature related to career assessment and planning for individuals with and without disabilities, and included career planning (e.g., identifying interests), career exploration (e.g., doing an informational interview), education (e.g., taking a college class), and work activities (e.g., applying for a job) (Lent, Hackett, & Brown, 1999).

The Career Decision Self-Efficacy Scale–Short Form (CDSE; Betz et al., 1996) is a 25-item self-rating (1 = *no confidence at all* to 5 = *complete confidence*) of a person's confidence to perform career self-appraisal (e.g., "Decide what you value most in an occupation"), obtain occupational information (e.g., "Talk to a person already employed in a field I am interested in"), select goals (e.g., "Select one occupation from a list you are considering"), plan (e.g., "Make a plan of your goals for the next 5 years"), and problem solve (e.g., "Change majors if you did not like your first choice"). The wording of some of the items was adapted to be more easily understood by high school students. The scale

obtained internal consistency reliability of .94 and test–retest reliability of .83. Statistically significant correlations (.40) were found between the CDSE and the Career Decision Scale (Osipow, 1987). The Disability-Related Career Self-Efficacy Scale (DCSE; Powers et al., 1995) measures the extent to which individuals believe they have the capabilities to achieve desired outcomes made more difficult by their disability (e.g., "My disability stops me from doing what I want"). Field tests of the 8-item instrument yielded a coefficient alpha of .76 and significant correlation with the Self-Efficacy Scale (Sherer et al., 1982).

The Mental Health Recovery Measure (MHRM) is a 30-item questionnaire designed to assess persons' views of their recovery (Young & Bullock, 2003). Respondents rated (5 = *strongly agree* to 1 = *strongly disagree*) their agreement with such statements as "I work hard to improve my mental health and feel good." An alpha of .93, a test–retest reliability of .92, and a correlation of .75 with the Resilience Scale have been reported (Wagnild & Young, 1993). The Consumer Empowerment Scale (CES) is adapted from the Family Empowerment Scale (FES). Respondents rate (1 = *never* to 5 = *always*) how well they manage daily situations, di-

rect services, and advocate for others (e.g., "When problems arise, I handle them pretty well"; Koren, DeChillo, & Friesen, 1992). Alphas of .85 to .92 are reported.

Using a 4-point rating scale ranging from 4 (*high*) to 1 (*low*), participants in the intervention condition rated its utility and benefits.

Intervention group protocol

Career visions guide and intervention description. The SDCDM and guide materials developed by Wehmeyer and his colleagues were adapted and revised for the purposes of this study (Wehmeyer et al., 2003). The SDCDM materials describe how staff should implement the intervention, and provide resource materials and forms they could use with participants. The Career Visions Guide was written for and given to the young adult participants. The Guide materials were designed to appeal to young and emerging adults (e.g., the language was informal, examples of issues and strategies were developmentally appropriate).

The Guide is comprised of three phases and 12 units, which reflect the SDCDM model. The phases and units of the SDCDM and Career Vision are derived from the key conceptual elements of self-

Table 3. Career planning phases and questions

Phase 1	Phase 2	Phase 3
What are careers and jobs that might be a good fit with my interests, talents, and needs?	What is my plan?	What have I achieved?
1. What are my interests, strengths, and preferences?	6. What actions can I take to reach my career or job goal?	10. What actions have I taken?
2. What are possible jobs that reflect my strengths and interests?	7. What could keep me from taking action?	11. What barriers have been removed?
3. What do I know about each of these jobs now?	8. What could I do to remove these barriers?	12. What has changed to enable me to get the job and career I want?
4. What must change to get the job and career I want?	9. When will I take action	
5. What can I do to make this happen? What is my career goal?		

determined skills identified by Wehmeyer (1999). The phases and units are presented as questions, and information is provided to assist participants to answer the corresponding questions (see Table 3). For example, for Question 1, information is provided about how important it is when choosing a career to carefully think about one's own interests, strengths, and job preferences, and how to self-reflect on and gather information from others about these things. In another example, for Question 6, the importance of breaking goals into steps and writing these down is discussed, and the participant is shown how and sup- ported to do so. Each unit includes forms on which participants recorded information about their career planning (e.g., career profile, goals, plans, and action steps).

All intervention meetings were conducted individually with participants. Career advisors reviewed with participants the information in one of the units during each of the first 12 weekly meetings of the intervention, and supported them to use the information for planning their own career goals and steps. For example, during the first meeting, career advisors reviewed Unit 1 with participants (What are my interests, strengths, and preferences?) and facilitated them to reflect on their own strengths and interests, and to write these on their career profile. At the end of each meeting, career advisors helped participants to identify tasks related to the materials covered that they would work on between meetings (e.g., asking friends and family to give them ideas to add to their career profile).

There were five overarching self-determination principles that the career advisors reviewed each meeting: (a) be persistent and don't give up, (b) remind yourself everyday of things that you have achieved, (c) believe in yourself and your goals, even when others doubt you, (d) take positive risks to try new things that will help you achieve your goals, and (e) get the help that you need.

Meeting schedule, location, and focus. During Phase 1, participants met with their career advisors 12 times to review the 12 units of the Career Visions Guide, and to develop their career plan and steps. Although participants were asked to meet weekly over a 3-month period, some meetings were delayed due to participant illness and schedule conflicts. Meeting locations that were chosen by participants included program offices and coffee shops.

After the first 12 meetings and units were completed, participants met with their career advisors an additional 18 times or about twice each month for 9 months. The purpose of these meetings was for participants to refine and implement their plans. For example, a young adult who wished to take college classes might have spent many of these meetings getting support to apply to college and for financial aid, enrolled in school, and registered for disability services. Another young adult might have continued to work on deciding his or her job goal.

Intervention staff training. Intervention staff, named career advisors, were trained by the principal investi- gator. The principal investigator and career advisors met at least weekly to ensure study protocol adherence, and to discuss any issues that might have arisen.

Control group protocol

Shortly after baseline, a career advisor met with each control group participant on one occasion for approximately 3 hr. The career advisor reviewed the 12-step self-determined career planning process with them, assisted them in completing a career profile, and provided them with job assistance agencies' contact information. Except for the data collection sessions, no other meetings were conducted with control group participants. Engagement in other services during the study varied among control group participants.

Intervention dosage

All intervention participants who completed the second assessment met with their career advisor for 12 sessions and a total of approximately 24 hr, and went through the information and completed the career planning activities in each of the Career Vision Guide's units. All participants who completed the third assessment met with a career advisor on 18 occasions for a total of approximately 36 hr. The total intervention dosage was 30 meetings, and the meeting time averaged 63 hr with a range of 52 to 66 hr.

Analysis

A mixed models approach to either linear or nonlinear repeated measures was used to analyze the results (McLean, Sanders, & Stroup, 1991). This approach was used because the intervention occurring between baseline and assessment Time 2 (i.e., weekly meetings with the career advisor to learn skills and develop a plan) differed from that occurring between Times 2 and 3 (bimonthly meetings to review progress), and between Times 3 and 4 (when there was no contact with the participants). Thus, smooth growth over time was not expected. A mixed model repeated measures approach is well suited for this type of data. A mixed models approach was also used because there was a small amount of missing data, rather than listwise deletion of missing data, which can increase bias.

Because linear mixed models assume normality, each variable was analyzed for distributional form to determine if a linear or nonlinear mixed model approach should be applied to the data. Variables were examined at each time point to determine if asymmetry was pronounced. If not, a linear mixed models analysis was conducted. If the asymmetry was pronounced, a non-linear mixed model was used, specifying a Poisson distribution with a log link function. All models were fit using the Kenward–Roger technique to estimate the degrees of freedom (Kenward & Roger, 2009).

Analysis was conducted with the group as the between-subjects factor and time as the within-subject factor. Contrasts to the time variable and the Group × Time interaction were applied because each had 3 *df*. Profile contrasts were used so that the difference between adjacent time points and the interaction of the differences by group was determined. Effect sizes were estimated by taking the values of the contrasts divided by the pooled pretest standard deviation. The raw means and standard deviations for each measure at each time point are shown in Table 2. Figures of the raw mean scores are also provided for each measure for which significant Treatment Group × Time interaction was found to provide the reader with a visual picture of the results. To examine the possibility that self-determination would mediate the relation between the intervention effect and career planning engagement outcomes, a bootstrapping approach to assess potential mediation effects was used (Varian, 2005). This procedure has been shown to provide better power for detecting indirect effects than the Sobel test and does not require an assumption of normality. In applying the technique to this data, the significant effects found in the previous analysis were modeled.

Results

Of the 67 young adults in the two conditions, 3 in the intervention condition and 2 in the control group withdrew prior to receiving any intervention. Of the individuals who started the intervention, the Time 1 to Time 2 attrition rates were 13% and 6% for the intervention and control groups, respectively. One individual in the intervention group left the state and another passed away prior to completing the Time 2 assessment. Twenty-four and 21 participants in the intervention and control groups, respectively, completed the third assessment. The fourth assessment was completed by 20 intervention and 16 control group participants. Between the Time 2 and Time 4 assessments, 3 participants in the control group moved out of state.

Hypotheses

Self-determination. Hypothesis 1, that young adults who participate in the Career Visions intervention would make significantly greater gains than those in the control group on their level of measured self-determination, was confirmed. For the ARC SDS measure, the Group × Time interaction was significant, $F(3, 44.2) = 6.96$, p = .0006, indicating that the change over time varied by group (see Figure 1). Contrasts indicated that the intervention group increased more between Time 1 and Time 2 than did the control group, $t(60.5) = 3.23$, $p = .002$, effect size = 0.70. There was also a greater increase for the intervention group from Time 2 to Time 3, $t(47.9) = 2.06$, $p = .0445$, effect size = 0.47, from Time 1 to Time 3, $t(49.3) = 4.56$, $p < .0001$, effect size = 1.18, and from Time 1 to Time 4, $t(41.6) = 2.61$, $p = .0125$, effect size = 0.84. There was no significant difference in the change from Time 3
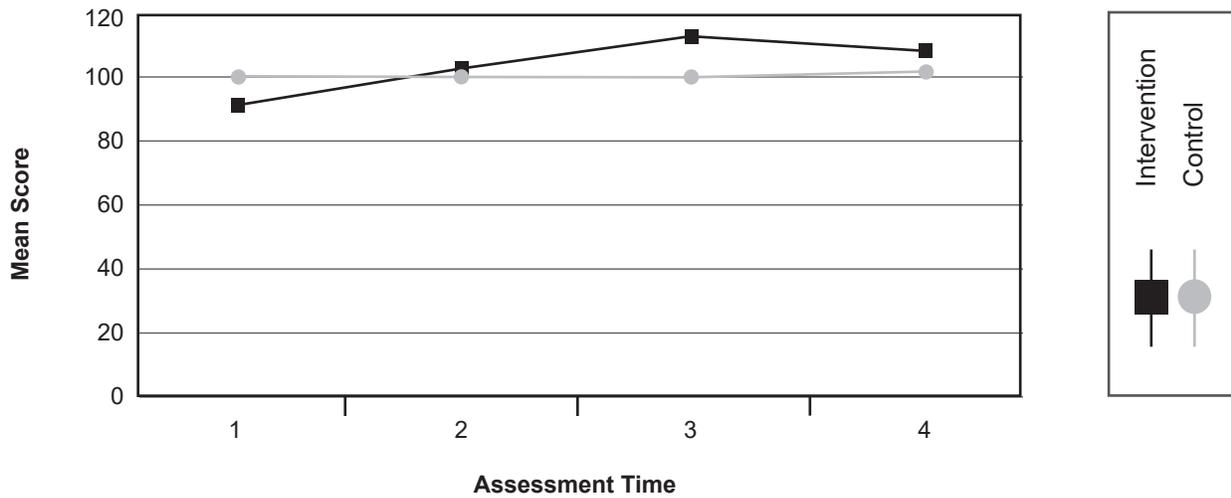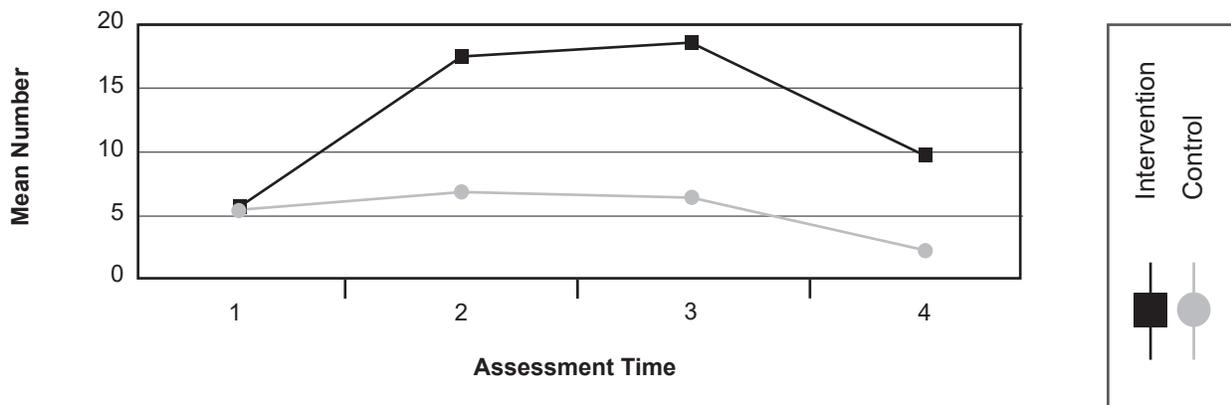
Figure 1. Self-Determination Scale

Figure 2. Career planning and activity engagement

to Time 4. Figure 1 illustrates that the intervention group was lower than the control group at baseline, but showed an upward trend and surpassed the control group, which remained stable over the four assessments.

Career planning engagement. Hypothesis 2, that young adults who participate in the Career Visions inter- vention would make significantly greater gains than those in the control group on their level of measured career planning engage- ment, was confirmed. For the CPAE measure, there was a significant group effect, $F(1, 51.61) = 30.49$, $p < .0001$; time effect, $F(3, 47.15) = 13.81$, $p < .0001$; and Group $\times$ Time interaction, $F(3, 48.75) = 6.62$, $p = .0008$. Contrasts indicated that the difference was greater for the treatment group between Time

Table 4. Mean percentage of participants who were employed and took a class

	Assessment time			
	Time 1	Time 2	Time 3	Time 4
Employed				
Intervention	26	15	54	50
Control	21	17	38	25
Took a class				
Intervention	11	44	63	40
Control	9	17	19	19

1 and Time 2, $t(67.13) = 3.43$, $p = .001$, effect size = 1.98; between Time 1 and Time 3, $t(55.79) = 3.95$, $p = .0002$, effect size = 2.29; and between Time 1 and Time 4, $t(38.7) = 3.22$, $p = .0026$, effect size = 1.43. There was no significant difference for changes between Times 2 and 3 or between Times 3 and 4. Figure 2 illustrates that the two groups were virtually identical at baseline; those in the intervention made steep increases after the first 12 meetings, and made more modest increases after the next 18 meetings (Time 3). Modest changes were made by the control group at Time 2 and Time 3. Both groups' engagement declined at follow-up.

One item of the CPAE asked if participants had worked in the prior 3 months. Table 4 shows the percentage of participants at the four assessment time points in each group who reported that they had done so. At baseline, similar percentages of intervention (26%) and control (21%) group participants had done so. The percentage of intervention participants (50%) who were working at follow-up increased substantially more than those in the control group (25%). Reviewing the case notes of the career advisors revealed that many of the intervention group participants between baseline and the second assessment chose to leave their current entry-level jobs and to begin to take classes, which helps explain the initial decrease in their rate of employment. Another item of the CPAE asked if the participant had taken a college or other post-secondary education class in the prior 3 months.

At baseline, 11% and 9% of the intervention and control group participants, respectively, had taken a class. The intervention groups' rate of taking a class jumped to 44% by the second assessment and then to 63% by the third assessment, and remained high at follow-up. The percentage of class takers also increased for the control group, but much more modestly than for the intervention group.

Self-determination mediation of career planning activity engagement. The Time 1 to Times 2, 3, and 4 changes in engagement outcomes were tested for mediation by the participants' self-determination using a bootstrapping approach. Using a 95% confidence level, the analysis revealed the change from baseline to Time 2 for the CPAE measure of career planning engagement was partially mediated by the participants' self-determination as measured by the SDS, suggesting that the increases in participants' self-determination at least partially contributed to their increased career planning engagement. This was when the greatest increases occurred for the intervention group on both measures. There was no evidence of mediation for the changes from Time 1 to Times 3 or 4.

Research questions

Career decision-making self-efficacy. There was a significant Group × Time interaction, $F(3, 46.5) = 5.56$, $p = .0024$, for this measure. The groups differed on changes made between Times 1 and 2, $t(60.2) = 3.24$, $p = .002$, effect size = 0.83; between

Times 1 and 3, $t(52.2) = 3.49$, $p = .001$, effect size = 1.14, and between Times 1 and 4, $t(47.5) = 3.18$, $p = .0026$, effect size = 0.95. Figure 3 shows that the intervention group increased over the intervention period and maintained gains at follow-up. The control group also increased, but more modestly.

Disability-related career self-efficacy. The time effect, $F(3, 44.9) = 4.67$, $p = .0064$, was significant as was the Group × Time interaction, $F(3, 48.9) = 3.43$, $p = .0240$. Significant differences were found between groups for the change from Time 1 to Time 3, $t(62.7) = 2.92$, $p = .0049$, effect size = 0.94), from Time 2 to Time 3, $t(53.4) = 2.51$, $p = .0152$, effect size = 0.66, and from Time 1 to Time 4, $t(45.4) = 2.45$, $p = .0181$, effect size = 0.88. Figure 4 shows that the intervention group improved from Time 1 through to Time 3 and maintained these gains at follow-up. The control group increased to a lesser extent from Time 1 to Time 2, declined between Time 2 and Time 3, and then returned to almost baseline levels at follow-up.

Mental health recovery measure. There was a significant time effect, $F(3, 143) = 5.14$, $p = .0021$, as well as Group × Time interaction, $F(3, 144) = 3.66$, $p = .0140$. The differences were significantly greater for the intervention group than the control group between Times 1 and 3, $t(147) = 2.94$, $p = .0038$, effect size = 0.81; between Times 2 and 3, $t(142) = 2.38$, $p = .0185$, effect size = 0.70; and between Times 1 and 4, $t(146) = 2.13$, $p = .0346$, effect size = 0.64. As Figure 5 shows, the intervention group was lower at baseline, increased through the intervention, surpassed the control group at Time 3, and maintained these gains at follow-up. The control group remained stable on this measure over the 2 years.

Consumer empowerment scale. Although there was a significant time effect, $F(3, 45) = 5.34$, $p = .0031$, there was no group effect nor Group × Time interaction for the measure of consumer empowerment. Both groups tended to increase over time.

Participant feedback

To the question "How useful has the Career Visions project been to you?" the mean rating for the intervention participants on the 4-point scale ranging from 1 (*not at all*) to 4 (*very*) at Times 2, 3, and 4 was 3.2, 3.4, and 3.6, respectively. The mean ratings at Times 2, 3, and 4 regarding the extent to which being in the project had increased their hope for their future were 2.1, 3.3, and 3.6, respectively.

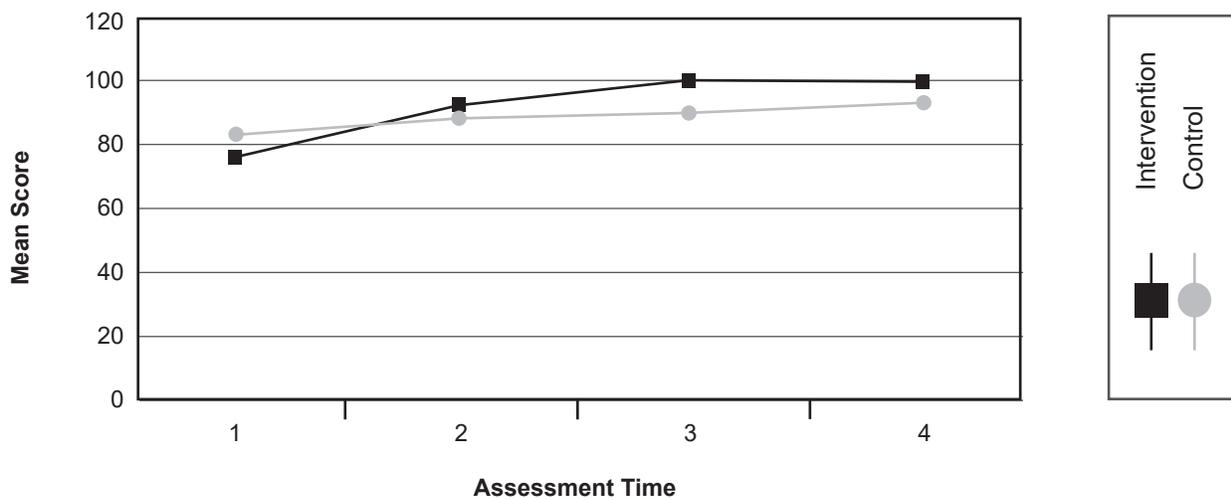Figure 3. Career decision self-efficacy
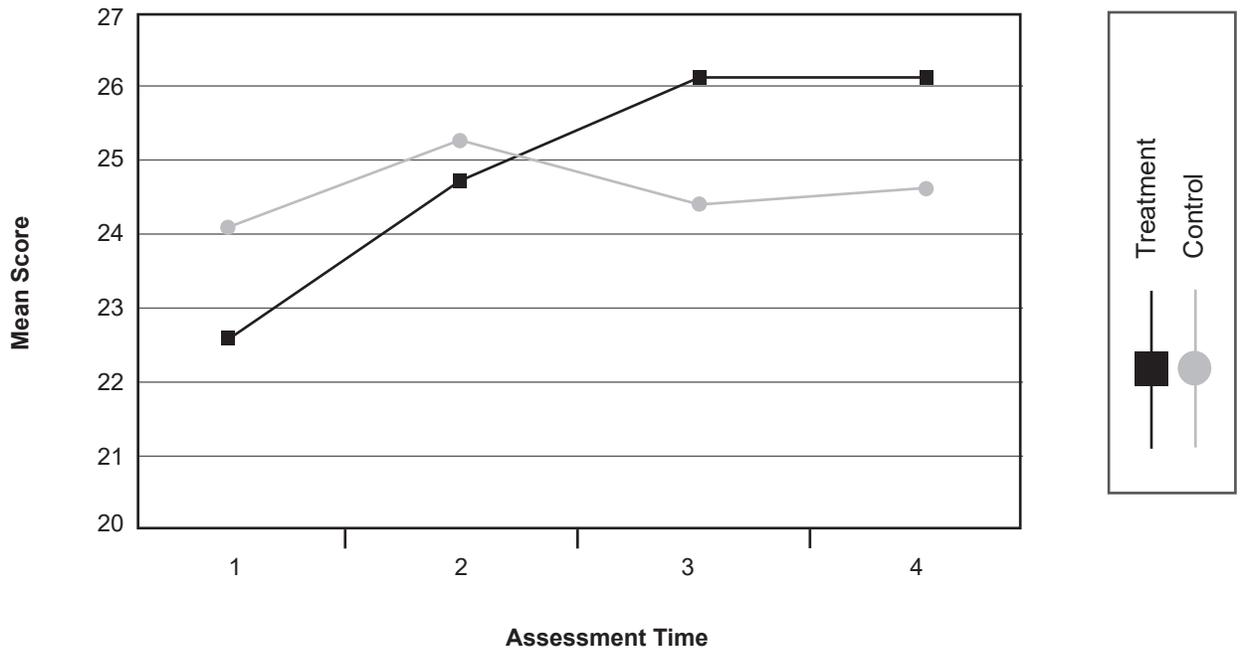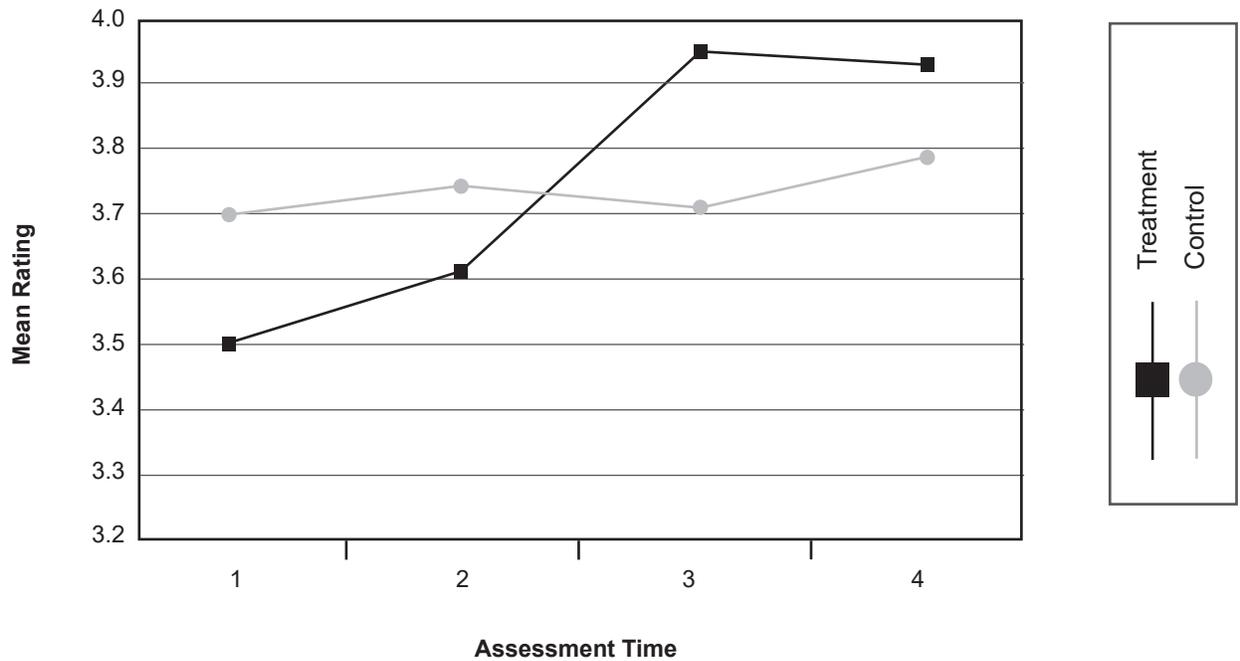
Figure 4. Disability-related self-efficacy

Figure 5. Mental health recovery measure

They were asked to provide feedback about what they liked and thought was the most useful, and many indicated the following:

- Consistent focus of the career advisors on their strengths.

- Learning about careers that they were not aware of prior to their participation.

- Learning how to develop a written plan with steps and how to problem solve barriers.

- Gaining knowledge of the Americans with Disabilities Act and its implications for getting accommodations in school and at work.

The most frequent suggestion given for program improvements was that career advisors be available to continue to meet with participants on an as-needed basis after the intervention.

Discussion

The results of this study provide additional evidence that by coaching individuals with disabilities to learn the component skills of self-determination and to apply these skills to career and other life planning, their general level of self-determination and their engagement in these activities can be increased (Geenen et al., 2015; Geenen et al., 2013; Wehmeyer et al., 2013). This is the first study to specifically evaluate the impact of a self-determination intervention on individuals with mental health challenges during their 20s, when they are facing challenges distinct from those of younger and older individuals (Walker, 2015).

The finding that participant increases in self-determination at least partially mediated their engagement in career planning activities supports the results of Powers et al. (2012) regarding the contribution that self-determination can make to other outcomes. This result suggests that it was not just the career planning coaching participants received that resulted in their engagement in these activities, but that the increases in the general level of self-determination of participants was an important contributor. The maintenance of self-determination gains found after participants were no longer interacting with their career advisors further supports the possibility that the intervention had positively affected the extent to which participants had learned and inter- nalized "acting as the primary causal agent in one's life free of undue external influence or interference" (p. 305), as Wehmeyer (1999) defined self- determination. The substantial increases made by the intervention group for the measures of self-efficacy related to their disabilities and their mental health recovery, both of which have been associated with self-determination, provide additional evidence for this possibility (Geenen et al., 2015). These results lend evidence to the literature advocating for giving people with mental health challenges hope for recovery, and suggesting the life-changing effect that doing so can have on their lives (Mancini, 2008).

The lack of a significant finding for the measure used to evaluate the impact of the intervention on consumer empowerment could be attributed, in part, to the measure's focus on respondents' confidence in directing mental health services in general, with no questions addressed to career planning. In addition, there was a ceiling effect because most participants at baseline expressed a high level of confidence.

The downward trend for the intervention group participants' career engagement during follow-up reflects the fact that by this time most of them had already engaged in the activities they needed to do to identify their goals, develop a plan, and to begin to implement it. During follow-up, they were spending most of their time going to school, working, or both.

The percentage of intervention group participants who were employed more than doubled from baseline to the postintervention assessment (Time 3) and was maintained at follow-up. The employment rate for those in the control group also almost doubled at the third assessment, but declined almost to baseline levels at follow-up. Notes taken by the evaluation staff help to explain these results. The intervention group, compared to the control group participants, were more likely to seek jobs related to their identified career goals, develop a list of key strategies that they needed to do to be successful at the job, and to problem solve when they encountered difficulties. These results lend evidence to the litera-

ture that indicates that levels of self-determination affect not just planning, but critical life outcomes, including employment (Chambers et al., 2007).

The small number of participants is a limitation of this study. However, the statistically significant Group × Time differences and the effect size findings for the key measures even with these numbers is promising. Given the age group and challenges of the participants, a higher than usual rate of attrition was anticipated. The fact that participants were recruited from very diverse life and service histories makes the findings generalizable across this population.

Additional research is needed that attempts to replicate the findings of this study with larger numbers of participants and that follows the participants over a longer period of time to experimentally evaluate the impact of the intervention on their career and life paths. Continued efforts should be made to provide transition services for high school students and employment assistance services for older adults with mental health challenges. However, the results of this study suggest the benefit of services specifically designed for young adults who need to continue age-appropriate supports after high school and for those who experience their first significant mental health challenges. Intervening with these individuals at the beginning of their career trajectories, might help them to avoid the long periods of unemployment and poverty that many adults with mental health challenges experience (Sowers & Wood, 2012).

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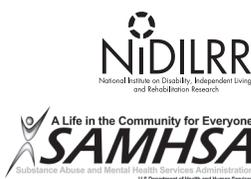
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