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My Life: Effects of a longitudinal, randomized study of self-determination enhancement on the transition outcomes of youth in foster care and special education ☆

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ABSTRACT

Youth in foster care disproportionately receive special education services and those in foster care and special education are at compounded disadvantage as they attempt to transition from high school to adult life. Given enhanced self-determination has been associated with improved transition outcomes for youth in special education, the purpose of this longitudinal, randomized trial was to evaluate the efficacy of the *TAKE CHARGE* self-determination intervention for improving the transition outcomes of those highly at-risk youth who are in both foster care and special education. The intervention included coaching for youth in the application of self-determination skills to achieve youth-identified goals, and youth participation in mentoring workshops with near peer foster care alumni. Sixty-nine youth, ages 16.5 to 17.5, were randomly assigned to *TAKE CHARGE* or to the foster care independent living program. Assessment at baseline, post-intervention and at one year follow-up revealed moderate to large effect sizes at post-intervention and one year follow-up for the differences between groups in self-determination, quality of life, and utilization of community transition services. Youth in the intervention group also completed high school, were employed, and carried out independent living activities at notably higher rates than the comparison group. Self-determination was confirmed as a partial mediator of enhanced quality of life. Implications of the findings for supporting youth in foster care, with and without disabilities, as well as future research directions are discussed.

1. Introduction

Research on youth in special education and foster care generally suggests a prevalence rate of 30 to 40% (e.g., Courtney, Piliavin, & Grogan-Kaylor, 1995; Geenen & Powers, 2006a; Lambros, Hurley, Hurlburt, Zhang, & Leslie, 2010). Other studies suggest the prevalence could be higher. For example, the National Evaluation of Title IV-E Foster Care Independent Living Programs for Youth found that 47% of youth emancipating from foster care had an identified disability (Westat, 1991). Likewise, a review of the Chicago Public Schools population showed that almost one-half of the middle school youth who were involved with child welfare services had identified disabilities (Wulczyn, Smithgall, & Chen, 2009). Hill (2012) matched youth preparing to exit Minnesota's child welfare system with data from that state's education database and, 60% of the youth in her sample were identified as having a disability. Youth in foster care are more likely to be identified as having emotional disturbances and physical disabilities, as compared to non-foster youth (Stone, D'Andrade, & Austin, 2007). In contrast, studies that examined only administrative records from child welfare appear to under-report rates of disability; for example, using this type of data, Lightfoot and her colleagues established a prevalence rate of 27.9% for children in care over the age 5 (Lightfoot, Hill, & LaLiberte, 2011). As Hill (2009) points out, there are barriers to

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information sharing between special education and child welfare systems, and caseworkers responsible for entering this information may not always be aware of a young person's disability status.

1.1. Transition to adulthood outcomes of youth with disabilities in foster care

Nineteen percent of the 408,425 youth in foster care during 2010 were 15 years of age or older; the number of youth exiting care through emancipation, usually at age 18, or running away was 29,358 (Adoption and Foster Care Analysis [AFCARS], Preliminary report for 2010). Despite their overrepresentation in foster care, scant research has been conducted on transition to adulthood by youth with disabilities. Thus, information on the transition outcomes of these youth has to be derived from findings related to the transition outcomes of youth with disabilities and of youth in foster care separately, as well as the small number of studies on youth with disabilities in foster care.

1.1.1. Transition outcomes of youth with disabilities

Despite some notable improvements over the past twenty years, transition outcomes of young adults with disabilities continue to lag behind those without disabilities. National Longitudinal Transition Study-2 (NLTS2) follow-along data on the post-high school experiences of youth with disabilities were compared with data from the National Longitudinal Survey of Youth, 1997 (NLSY97), 2001 data collection, and the National Longitudinal Study of Adolescent Health, (ADD Health), Wave 3, collected in 2001–02. NLTS2 findings for youth out of high school approximately 2 years (Wagner, Newman, Cameto, Garza, & Levine, 2005) indicated that 72% of the youth had completed high school and 28% had dropped out; 44% of youth with emotional and behavioral disabilities had dropped out. Two years post high school, 25% of youth were attending postsecondary education, which is about half the rate of youth without disabilities. Forty percent of youth were employed vs. 63% of employed youth in the general population. Seventy-five percent of youth with disabilities were living with their families, a rate similar to youth in the general population. Of the 12% of out-of-school youth who were living with a spouse or roommate outside of their parents' home, about two-thirds had annual incomes of $5000 or less. One-third of youth had personal checking accounts, and almost 20% had had a credit card or other charge account in their own name. About half of youth with disabilities had been arrested for something other than a traffic violation, 16% had spent a night in jail, and 20% were on parole or probation, rates similar to those of young adults without disabilities (Wagner et al., 2005). These findings suggest that youth with disabilities continue to experience barriers in postsecondary education and employment, and those youth with disabilities who do not live with their families are at high risk for poverty.

1.1.2. Transition outcomes of youth in foster care

A substantial body of research documents the negative consequences of foster care on transition to adulthood. For example, the Midwest Evaluation of the Adult Functioning of Former Foster found that youth exiting foster care had substantially lower levels of educational attainment and employment, and they were twice as likely to have at least one child and to be a single parent, compared to their peers of the same age in the general population (Courtney et al., 2005). The Casey National Alumni Study found that the household incomes of young adults who had recently left foster care were 35% lower than the general population and that within the first year of leaving foster care, one out of five alumni experienced homelessness at least one night (Pecora et al., 2005). Additional findings indicated that 62% of youth did not have a job when they were emancipated from care, and almost one-third had no work history (McMillen & Tucker, 1999). In a study conducted in California, Illinois and South Carolina, youth emancipated from foster care had less than a 55% employment rate and typically received wages that fell well below the poverty level (Goerge et al., 2002). Courtney and Dworsky (2006) found that 39% of foster care alumni were enrolled in higher education at age 19, compared to 59% of youth in the general population. By age 21, only 25% of alumni were in postsecondary education, compared to 44% of young adults in the general population (Courtney et al., 2007).

1.1.3. Outcomes of youth with disabilities in foster care

As previously noted, very little research has been conducted on the outcomes of young people in foster care with disabilities. Indeed, the two recent large-scale studies investigating the outcomes of foster youth aging-out of care excluded youth with certain disabilities (Courtney et al., 2005; Pecora et al., 2005). The Midwest Evaluation of the Adult Functioning of Former Foster Youth excluded "youth with developmental disabilities or severe mental illness, and youth who were incarcerated or in a psychiatric hospital" from participating in the study (Courtney et al., 2005, p. 5) while the Casey study did not include young adults who had a major physical or developmental disability (e.g., an IQ score of less than 70; Pecora et al., 2005, p.18).

Although dated, the National Evaluation of Title IV-E Independent Living Programs was the only major comparative study that examined the outcomes of youth in foster care and special education, finding that, compared to youth in foster care who did not have an identified disability, foster youth with disabilities were less likely to (1) be employed, (2) graduate from high school, (3) have social support and (4) be self-sufficient (Westat, 1991). A more recent study revealed that only 16% of foster youth in special education with a primary special education classification of emotional disturbance graduated from high school; even more worrisome, it showed that 18% left school because they were incarcerated (Smithgall, Gladden, Yang, & Goerge, 2005). Geenen and Powers (2006a) found that youth in special education and foster care had lower levels of high school academic achievement than youth in special education alone or youth in foster care alone. Similarly, Anctil, McCubbin, O'Brien, Pecora, and Anderson-Harumi (2007) found that individuals with disabilities who had exited foster care (mean age 29 years) had lower levels of educational attainment and self-esteem than foster care alumni without disabilities. Several researchers have explored whether the experiences of youth with disabilities differ while they are living in foster care, potentially contributing to the negative outcomes they experience. Hill (2012) found that older youth with disabilities moved more often than their peers without disabilities and they were less likely to have permanency plans that involved their family of origin (e.g. reunification with biological family or relative care). Slayter and Springer (2011) examined the foster care experiences of youth with intellectual disabilities and found similar patterns; specifically, youth with intellectual disabilities experienced significantly greater placement instability and were 61% less likely than youth in foster care without intellectual disabilities to be placed in kinship care.

1.2. Initiatives to improve the outcomes of youth in foster care

During the past 12 years, federal attention has increasingly focused on supporting the successful transition of youth in foster care. The 1999 Foster Care Independence Act (FCIA) created the John H. Chafee Foster Care Independence Program and doubled the federal money states receive to provide foster youth with independent living services (Massinga & Pecora, 2004). Typically, these services are delivered through Independent Living Programs (ILPs) and focus on instructing youth in specific employment, education, housing and daily living skills (e.g., completing a job or housing rental application, budgeting). In addition, the 2008 Fostering Connections Act requires that youth preparing to exit foster care have a written transition plan that describes the programs and services needed to live independently. In spite of these legislative initiatives, Courtney et al. (2005) found that only 11 to 27% of the young adults received independent living program services while in foster care and the efficacy of independent living program services has not been evaluated using rigorous methods (Montgomery, Donkoh, & Underhill, 2006). Geenen

and Powers (2006b) have documented the lack of coordinated transition planning between special education and child welfare, and the accessibility of independent living program services to youth with disabilities is unclear.

1.3. Promoting transition success through self-determination enhancement

Drawing upon effective transition support approaches identified outside of the foster care system, self-determination enhancement has been identified as an effective practice in secondary and transition special education (Field, Martin, Miller, Ward, & Wehmeyer, 1998) and a key factor in positive youth development (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004). Consistent definitions of self-determination have been offered, such as by Wehmeyer (1996a), who defined self-determination as "acting as the primary causal agent in one's life and making choices and decisions regarding one's quality of life free from undue external influence or interference" (p. 22); and Powers et al. (1996), who defined self-determination as "self-directed action to achieve personally valued goals" (p. 292). From these perspectives, self-determination means having the power to make decisions, to direct one's actions, to dream and take risks, and to exercise rights and responsibilities. A significant body of correlational and single subject evidence exists regarding the impact of self-determination on transition outcomes of youth in special education. For example, Wehmeyer and Schwartz (1997) found that one year after graduation, young adults with learning or cognitive disabilities who demonstrated high levels of self-determination in their final year of high school were more likely to be employed and earn higher wages one year following graduation, when compared to peers who exhibited low levels of self-determination during high school. In a second follow-up study, Wehmeyer and Palmer (2003) found a positive correlation between high levels of self-determination, employment, and independent living among students with learning and cognitive disabilities at one and three years after high school. Similarly, Wehmeyer and Schwartz (1998) found that adults with intellectual disabilities who expressed higher levels of self-determination also experienced greater quality of life, as measured by Schalock and Keith's (1993) Quality of Life Questionnaire. More recently, Martorell, Gutierrez-Recacha, Pereda, and Ayuso-Mateos (2008) found that levels of self-determination predicted paid employment outcomes for people with intellectual disability, while IQ did not. Cobb, Lehmann, Newman-Gonchar, and Alwell (2009) conducted a narrative synthesis of seven meta-analytic studies of self-determination, finding that sufficient evidence exists to document the benefits of self-determination promotion.

While correlational, single-subject and quasi-experimental findings have associated self-determination or elements of self-determination with enhanced secondary and transition outcomes, very little experimental research has been conducted to demonstrate that self-determination enhancement interventions actually increase youths' self-determination. Initially, Powers and colleagues conducted two small pre- post-test randomized studies of *TAKE CHARGE*, a self-determination intervention including in-situ coaching of youth in the application of self-determination skills to achieve their self-identified goals, mentoring by adults with disabilities, and parent support (Powers, Turner, Ellison et al., 2001; Powers, Turner, Westwood et al., 2001). Sixty-three youth with learning, emotional, and other health impairments were randomized to the intervention or a community as usual control group. Youth in the intervention group demonstrated significantly higher empowerment, transition planning knowledge and engagement, and academic goal achievement, compared to the control group. Wehmeyer, Palmer, Shogren, Williams-Diehm, and Soukup (2010) experimentally evaluated whether exposure to various self-determination curricula over three years would increase the self-determination of 371 transition-aged youth in special education in 50 high schools that were randomly assigned to treatment or control conditions. Overall, their findings showed consistent trends for youth exposed to the self-determination interventions to demonstrate increasing self-determination over three years of participation in the study, compared to youth in the control group schools. These experimental findings thus far document that self-determination interventions enhance youths' self-determination and proximal academic outcomes.

Further experimental research is needed to clearly determine the direct and mediational impact of self-determination enhancement on transition to adult life outcomes, as well as to evaluate the influence of self-determination enhancement on transition success for highly disadvantaged groups, such as youth in special education and foster care. The My Life study sought to investigate the outcomes of exposure to the *TAKE CHARGE* model on the self-determination and transition outcomes of youth with disabilities in foster care, both in absolute terms and in comparison to youth receiving typical foster care independent living services. Using a randomized design, two major research questions were investigated: 1) To what extent would youth who participated in *TAKE CHARGE* exhibit increased self-determination, at post intervention and at one year follow-up, compared to youth who participated in the foster care independent living program?; and 2) To what extent would youth exposed to the *TAKE CHARGE* self-determination model demonstrate improved transition outcomes, post-intervention and at one year follow-up, as indicated by high school completion, employment, living status, quality of life, transition planning, and use of transition services?

2. Method

The outcomes of the intervention were evaluated with a two-independent groups × three repeated measures design. Sixty-nine youth (33 intervention, 36 comparison) were enrolled over three study waves and randomly assigned to either the treatment or comparison group; youth were assessed at baseline, at post-intervention, and at one year follow-up.

2.1. Participants

The sampling frame for the 69 youth recruited to the study included four criteria: (a) receiving special education services, (b) 16.5 to 17.5 years of age, (c) under the guardianship of Oregon DHS (with at least 90 days in foster care) and (d) attending a large school district in the study target area. The state foster care system generated a list of all youth who were in foster care who met the study's age and geographic eligibility requirements, and who had a DHS special problem code, which was typically used by the agency to designate youth who were in special education and/or who received other services. This list was cross referenced with special education records to identify all youth in DHS guardianship that received special education services. All youth on the list were approached for participation except very rare instances in which a caseworker expressed a concern (e.g. non-English speaking, actively psychotic, scheduled to move out of state, etc.). Over 95% of youth chose to assent to the study following an orientation meeting, and the foster care agency provided consent for all youth who assented.

2.1.1. Comparison condition

The study comparison condition was the Foster Care Independent Living Program (ILP), funded through the John H. Chafee Foster Care Independence Program to provide independent living services to youth ages 16 and older in foster care. ILP services included classes on transition topics such as budgeting, cooking, and preparing a resume, support from an ILP case manager, drop-in peer support, and assistance to apply for resources such as Chaffee housing, subsidy, and Educational Training Vouchers. All youth consented to the study agreed to participate only in the ILP or *TAKE CHARGE* during the intervention year; case worker referral to the ILP was obtained for youth in the comparison group who had not been previously referred to the ILP, and study staff supported the youth to attend an ILP orientation. Post-intervention assessment indicated that 24 (77%) of comparison

group youth reported they participated in the ILP post-orientation; 13 youth (42%) reported they attended ILP classes (average of 4.92 classes during the intervention year); and 17 youth (55%) said they had an ILP case manager, with an average of 5.88 contacts.

2.2. Procedure

2.2.1. Intervention overview

Youth in the intervention group participated in *TAKE CHARGE* for approximately 12 months (see Geenen, Powers, Hogansen, & Pittman, 2007 for additional detail on the intervention model). The intervention included two elements: (a) individual, weekly coaching sessions for youth in the application of self-determination skills to achieve self-identified goals and to carry out a youth-led transition planning meeting; and (b) quarterly workshops for youth with young adult mentors who were formerly in foster care. The intervention was designed as a universally accessible approach for supporting the transition to adulthood of all youth while being accessible to young people with disabilities. Weekly coaching was typically conducted during unscheduled school class periods, immediately before or after school, or in the evenings or on weekends, whichever was most feasible for the student. Each youth learned to apply skills in achievement (e.g. set goals, problem-solving), partnership development (e.g., schmoozing, negotiation), and self-regulation (focus on your accomplishments, ARM yourself against stress) to identify and work toward personally valued transition goals, and to develop an individualized transition plan that s/he shared with those adults considered by the youth to be important in his or her life (e.g., teachers, foster care case worker, attorney, foster parent, biological family, athletic coaches, etc.).

These skills and the transition planning process were presented in a self-help guide that leads youth through the process of short-term goal identification and achievement, with each strategy presented as a small number of systematic steps (Powers, 2006). For example, the steps youth learn for SET GOALS are: 1) Look at what you are doing now; 2) Choose activities that: are important to you, a good place to start, and others will support; and 3) Decide exactly what you will do (break your goal down to bite-sized pieces). Coaches assist, encourage, and challenge youth to apply the skills to achieve their personal goals. They assist youth to review their self-help materials, to cheer their progress, to occasionally challenge them to take action, and to help them rehearse their use of strategies (i.e. role-play negotiating a goal with a foster parent) or to perform particular activities necessary for goal achievement (i.e. call an agency to obtain information). Over time, as the youth demonstrates increasing skill and motivation to accomplish chosen activity goals, the coach fades his/her direct involvement in activity completion and encourages the youth to select more complex goals and apply the meta-cognitive skills to achieve them.

To accommodate instability in the lives of many youth in foster care, adaptations were made to *TAKE CHARGE* coaching. For example, rather that supporting youth to learn and apply skills sequentially as presented in the self-help guide, coaches introduce skills as "learning" and "practice" moments emerged for each youth. Thus, a youth who was in a foster care placement crisis at the beginning of the intervention could be exposed to the steps of problem-solving before setting any goals. Once his or her immediate problem is addressed, the coach would then steer the youth toward goal setting. The *TAKE CHARGE* guide also was revised to address issues specific to foster youth, such as recording historic and/or important information in a "Personal Profile"; establishing "support agreements" with adults who are willing to help the youth during the first year or two after exiting care; and learning how to work with professionals and agencies that are important for the youth's success (e.g., child welfare, judges, attorneys).

Coaches provided an intervention orientation to each foster parent and monthly updates on the youth's activities to the foster parent and foster care case worker. Youth participated in updates as they desired, and they were always informed and approved of the information the coach planned to share. The intervention program also was designated as an unpaid ILP so that youth randomized to the intervention could access housing and educational funding available to youth in foster care.

2.2.2. Mentoring

Youth were invited to participate in up to 4 mentoring workshops with the peers in their cohort and mentors who were young adult alumni of foster care, usually 3–4 years older than the study participants. Mentors were attending college, working successfully in a particular career area, and/or had particular experience in overcoming barriers to transition success (e.g. homelessness). Mentors completed an application, interview, and training to prepare them to participate in selected workshops related to their interests and expertise. Mentoring workshop topics were selected by each cohort of youth, with topics such as employment, postsecondary education, exiting foster care, and leading a transition meeting typically selected. For each topic, a specific agenda and structured didactic, experiential, and fun activities were included.

2.2.3. Intervention fidelity

Twenty-nine youth successfully completed the intervention: the average number of months spent in coaching was 12.74 ($SD = 1.74$) with an average of 50.36 hours ($SD = 12$ h) spent in direct coaching across that time. Overall, participants attended an average of 2.82 mentoring workshops; however as procedures were refined for involving youth in workshops, participation increased to an average of 3.67 workshops attended by wave 3 youth.

Coaches completed a Fidelity of Implementation (FOI) Checklist to document the extent to which key components of the intervention were delivered. For example, the FOI tracks when a particular skill has been introduced or reviewed, how many times that skill is addressed or practiced, and coaching updates provided to foster parents and case workers. Overall fidelity for delivery of 102 intervention elements across all waves averaged 90%, with incremental increases in fidelity of implementation documented for successive waves (90% for wave 1, 93% for wave 2, 95% for wave 3), as the intervention was increasingly specified and training and technical assistance procedures were refined for coaches. Coaching was delivered by 5 different coaches, including 2 staff members and 3 supervised MSW students, supporting the feasibility of intervention delivery by individuals with diverse backgrounds.

2.3. Measures

All dependent measures were administered to participants at baseline, immediately post-intervention, and after a one year follow along period.

2.3.1. Self-determination

The Arc Self-determination Scale (Wehmeyer, 1996b; Wehmeyer & Kelchner, 1995) is a 72-item self-report measure that provides data on four components of self-determination as well as providing a global overall score of self-determination. The measure was normed with 500 students with and without disabilities in a variety of school districts across the United States and was found to have adequate validity and reliability. Construct validity for the scale was evaluated using a variety of statistical procedures, including factor analysis. A series of analyses of variance were conducted by age and type of disability, which provided further evidence of the scale's discriminative and construct validity. Subsequent research utilizing the scale has further documented the scale's discriminative validity. The scale's criterion-related validity was assessed by exploring relationships between the scale and other instruments of related constructs. Wolman, Campeau, Dubois, Mithaug, and Stolarski (1994) conducted an alternate-item correlation for item consistency, which was found to range from .91 to .98. Split-half reliability evaluation resulted in a correlation of .95. Test–retest correlations (3 months) were .74. Internal consistency reliability was calculated using Cronbach's alpha and was found to be .90. The scale has been used in previous studies

evaluating interventions designed to promote self-determination (Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000) as well as studies investigating the importance of student involvement in educational and transition planning (Cross, Cooke, Wood, & Test, 1999; Sands, Spencer, Gliner, & Swaim, 1999; Zhang, 2001).

Elements of self-determination also were assessed by asking youth to describe their goals and accomplishments as respective indices of their self-directedness and positive self-attribution, which are key foci of the *TAKE CHARGE* intervention.

2.3.2. Quality of life

The Quality of Life Questionnaire (QofLQ, Schalock & Keith, 1993), a widely used standardized measure of quality of life, was used to assess youth quality of life. It has been used with older children and adolescents with behavioral and educational impairments, and it has well established validity and reliability. The instrument provides information on a young person's connections with others, social inclusion, individual control, community integration, productivity and overall satisfaction and well-being.

2.3.3. Transition planning

The Transition Planning Assessment was used to measure youth transition planning knowledge and engagement (Powers, Turner, Westwood et al., 2001). This measure was previously used to evaluate the outcomes of the *TAKE CHARGE* on transition planning for youth in special education (not foster care) (Powers, Turner, Westwood et al., 2001). It consists of 14 Likert-type questions such as "People ask about my opinions and ideas at meetings", "I help run my transition planning meetings" and "I understand everything decided at the meeting". The standardized item alpha coefficients for the youth version were .84 on baseline and .91 on post-intervention (Powers, Turner, Westwood et al., 2001). Exploratory factor analysis of the measure in the current study suggested two factors (youth understanding of transition planning and youth and others' actions) with alpha coefficients of .83 and .88, respectively.

2.3.4. High school completion, employment, living status, independent living activities and use of transition services

The Outcome Survey (Wehmeyer & Schwartz, 1997) is a self-report measure completed by youth that captures perceptions about their readiness for independent life. It was used to assess employment, education and living status (e.g. stable housing). It also gathered information on usage of transition services (such as Vocational Rehabilitation, Chafee Housing, or WIA funded programs) and had a series of items that asked about indicators of independent living, such as whether youth paid their own rent, utilities and phone bill, shopped for their own groceries, earned enough to pay their own bills and whether they made their own medical appointments. This tool has been used in previous studies evaluating transition outcomes (Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997) and it is based on a selection of key questions from other instruments used to assess outcomes (e.g. the National Consumer Survey, Jaskulski, Metzler, & Zierman, 1990 and the National Longitudinal Survey, Wagner, D'Amico, Marder, Newman, & Blackorby, 1992). The original survey created by Wehmeyer was adapted for use in this study to include outcome areas specific to youth in foster care, such as type of foster care placement and number of placement moves while in foster care. Also added to the survey was a list of formal and informal services that could potentially promote the successful transition of youth with disabilities in foster care (e.g., mental and physical health, food stamps, Chaffee housing, mentoring).

School data was collected from school records (i.e., transcripts, IEP) and information about participants' foster care experiences was gathered from a review of their Oregon DHS case files and the Family and Children Information System (FACIS), the database for Oregon DHS' electronic records. If there was a discrepancy between youth report and school or DHS records, school and agency data were used.

3. Results

Sixty-nine youth were assessed at baseline (33 intervention, 36 comparison). At the end of the one year intervention period, 60 youth were assessed (29 intervention, 31 comparison); five youth could not be located and four youth had withdrawn from the study. At one year follow-up, 61 youth were assessed (29 intervention, 32 comparison) (we were able to locate for follow-up assessment one of the comparison group youth who was missing at post-intervention). Thus, our attrition rate was quite low: 13% at post-intervention and 11% at follow-up.

3.1. Sample characteristics

Table 1 provides information on the demographic characteristics of the participants who completed the study ($n = 61$). The mean age of the students was 16.8 years ($SD = .47$), with females accounting for 41% of the overall sample. The majority of participants (56%) were in the 11th grade at the time they entered the project (17 intervention, 17 comparison), 30% were in the 10th grade (8 intervention, 10 comparison), 13% were in the 12th grade (3 intervention, 5 comparison) and one youth (intervention) was in the 9th grade. Approximately 40% of the youth attended an alternative school (11 intervention, 14 comparison) and 38% of youth were slotted for a modified diploma (14 intervention, 9 comparison). Approximately 26% of the youth received developmental disability services (9 intervention, 7 comparison).

Educational information was gathered from school records (i.e. transcripts, IEPs). In regards to participants' foster care experiences, the average length of time in foster care was 5.6 years, with the range being .08 to 14.33 years, the mode was just under three years (2.9). Pearson Chi-Square analyses revealed no significant differences between the two groups in terms of race/ethnicity, maltreatment, or special education eligibility categories. The high percentage (37.7%) of youth who had a special education label of "other health impairment" is notable and information from the collaborating school district indicated that this category consists of many youth identified as having Attention Deficit Disorder. Additionally, youth may qualify under this category if they are taking medication, and research in this area indicates that youth in foster care are more likely to have psychiatric drugs prescribed (U.S. Government Accountability Office, 2011).

3.2. Living, employment, and educational outcomes

Descriptive statistics were calculated for high school completion, employment, and living status.

3.3. High school completion

Regarding education, at post-intervention 38% of intervention group youth and 26% of comparison group youth had completed their secondary education (either through graduation or obtaining their GED). Approximately one year later, this figure increased to 72% for intervention group youth and 50% for comparison group youth. A total of three comparison group youth and one intervention group youth dropped out of high school and did not return during the study period.

At post-intervention, three youth (1 comparison, 2 intervention) were participating in postsecondary education (either a two- or four-year college program). At follow-up, 26% of youth (6 comparison group and 10 intervention group) were attending college full or part-time.

3.4. Employment

Fourteen percent of intervention group youth and 19% of comparison group youth reported working in paid jobs at baseline. At post-intervention, this figure more than doubled for the intervention group youth, with 34% indicating they had a paid job. In contrast, the rate of paid employment went down slightly for the comparison group youth

Table 1
Demographic characteristics of My Life study participants.

Variable	Control ($n=32$)	Intervention ($n=29$)	Total ($n=61$)
Age (mean)	16.9	16.8	16.8
Gender (% female)	40.6	41.4	41
Race/ethnicity (%)			
Hispanic	12.5	3.4	8.2
Native American	9.4	10.3	9.8
Asian	0	0	0
African American	15.6	17.3	16.4
Caucasian	59.4	41.4	50.8
Multi-ethnic	3.1	20.7	11.5
Other	0	6.9	3.3
Placement type %			
Non-relative	75	75.8	76.4
Kinship care (including birth parent)	9.4	13.8	11.5
Group home/RTC	15.6	10.3	13.1
Length of time in foster care (mean years)	4.8	6.6	5.6
Total number of placement moves in the past year	2.8	2.0	2.5
Maltreatment (% non-exclusive)			
Physical	21.9	17.2	19.7
Sexual	18.7	37.9	27.9
Neglect	43.8	41.4	42.6
Emotional maltreatment	3.1	0	1.6
Threat of harm	25	37.9	31.1
Other	3.1	6.8	4.9
Special education eligibility (% non-exclusive)			
Emotional/behavioral	53	27.6	40.9
Intellectual disability	9.4	10.3	9.8
Speech/language	15.6	17.2	16.4
Physical (inc. deafness and blindness)	3.1	0	1.6
Autism spectrum disorder	9.4	0	4.9
Learning	21.8	31	26.2
Other health impairment	40.6	34.5	37.7
Received developmental disabilities services	21.9	31.0	26.2

to 16%. At follow-up, 28% of youth in the comparison group and 45% of youth in the intervention group were working in paid jobs.

3.5. Living status

At the time of study enrollment, all youth were in foster care under the guardianship of Oregon DHS (see Table 1 for type of foster care placement). At post-intervention, the majority of youth were still in foster care (38 of the 60 youth assessed or 63%). Six youth had been adopted or reunited with their birth family, fourteen youth were living with friends or a partner in their own apartment, one youth had housing provided through Job Corps and two youth (both in the comparison group) reported they were homeless. To test the relationship between placement changes by groups at post-intervention, a generalized linear model with a negative binomial distribution with a log link function was used. There was a trend ($\chi^2_{(1)}=2.58$, $p=.2$) for the treatment group to have fewer placements post-intervention, when controlling for number of placements at baseline.

At follow-up, the majority of youth (35 of the 61 or 57%) had exited care and the rate was similar across comparison and intervention groups. Among youth who were no longer under the guardianship of DHS, fifteen reported that they were living with their bio family or they had been adopted, fourteen youth were living in their own apartment (some with friends or a partner), four youth were residing in a college dormitory, one youth was in military housing and one youth had housing through Job Corps. At follow-up, 60% of the comparison group reported having a different placement than the year before compared to 50% in the intervention group. Thus, trends in placement stability modestly favored the intervention group, while the overall increase in placement change across both groups at follow-up reflected the fact that many youth aged-out of foster care after reaching 18 years of age.

3.6. Mixed models analysis of other key variables

Many of the distributions for the variables analyzed were relatively symmetric and unimodal, allowing for analysis by standard linear mixed models. Mixed models were used because of the fact that observations were repeatedly taken over three time points; baseline, post-intervention, and follow-up. Mixed models allow analysis of repeated measures without resorting to listwise deletion of missing data which can bias the parameter estimates. In those cases where the data were not symmetric, a general non-linear mixed model was used. A Poisson distribution was used with a log link function. In several cases, the data were negatively skewed so that the scores needed to be reversed (by subtracting from the greatest value) to make the distributions positively skewed prior to analysis. In those cases where non-linear mixed models were used, the means were back-transformed into the original units for graphing.

The variance–covariance structure for the models can be complex (unstructured, where the individual variances and covariances are estimated separately) or simple (compound symmetry, where the variances are homogeneous and the covariances as well). We compared the variance–covariance structures using the log likelihood test and the Akaike and Bayesian information criteria to decide on the most tenable structure.

Two specific contrasts were applied to the time variable to represent the expected findings. We tested the average of the post-intervention and follow-up to the baseline and the post-intervention to the follow-up. Interactions with condition were also made using these contrasts. Each contrast was orthogonal to the other and so each was tested at the .05 level. All significance tests are two-tailed unless otherwise reported. If the post-intervention vs. follow-up contrast was significant, indicating that the post-intervention and follow-up should not be averaged, then we compared each of the post-intervention and follow-up time points to the baseline separately, controlling for type I error using the Benjamini–Hochberg procedure. Effect sizes (ES) were calculated by dividing the difference between means by the estimated standard deviation. Means and standard deviations are presented in Table 2 for variables with a significant group difference.

3.7. Self-determination

3.7.1. ARC Self-determination Scale

For the ARC, the model assuming homogeneity of variances and covariances was tenable and so this model was interpreted. There was not a significant difference between post-intervention and follow-up by group ($p=.279$, ES = 0.43) but the groups did differ on the average of post-intervention and follow-up compared to baseline, $t(116)=2.10$; $p=.0378$, ES = .66. The intervention group scored significantly higher than the comparison group at both post-intervention, $p=.0069$, ES = 1.10, and follow-up, $p=.0069$, ES = 1.09.

3.7.2. Identification of accomplishments

This variable was positively skewed as expected for a count variable. It was analyzed with a non-linear mixed model using a Poisson distribution with a log link function. The fit of the model seemed adequate. There was a near significant difference between the groups for the average of the post-intervention and follow-up vs. the baseline, $t(86)=1.92$; $p=.056$, two-tailed, ES = 0.52. There was not a significant difference between the post-intervention and the follow-up, $p=0.4295$, ES = 0.21. The groups did not differ at the baseline, $p=0.3987$, ES = 0.20, but were different at post-intervention, $t(86)=4.18$; $p<.0001$, ES = 0.82, and at follow-up, $t(86)=3.39$, $p=.0011$,

ES = 0.62. The intervention group reported more accomplishments at post-intervention and follow-up than did the comparison group.

3.7.3. Identification of transition goals

The goals were analyzed in the same way as the accomplishments. However, for goals, there were no differences over time between groups, although the groups did differ at follow-up, $t(79) = 2.94$, $p = .0043$, ES = 0.60. There were no significant differences at baseline, $p = 0.3508$, ES = 0.22, or at post-intervention, $p = 0.3785$, ES = 0.20. The comparison group's count of goals reported declined from baseline to post-intervention and follow-up whereas the treatment group declined from baseline to post-intervention but rebounded from post-intervention to follow-up.

3.8. Quality of life questionnaire

The model assuming compound symmetry was tenable and so was interpreted. There was no difference between the groups comparing post-intervention to follow-up, $p = 0.7040$, ES = −0.14, but the average of post-intervention and follow-up vs. baseline did differ significantly by group, $t(116) = 2.55$; $p = .0120$, ES = 0.81. The groups did not differ at baseline, $p = 0.3580$, ES = 0.32, but they were different at post-intervention, $p = 0.0029$, ES = 0.61, and follow-up, $p = 0.0008$, ES = 0.77. The intervention group reported having significantly higher quality of life than the comparison group.

3.8.1. Self-determination as a partial mediator of quality of life group differences over time

Running the above model a second time using the Arc as a time varying covariate, the condition effect for quality of life was still significant $F(1, 59) = 6.06$; $p = .0167$; as was the time effect $F(2, 115) = 6.11$; $p = .003$, but the condition by time interaction was no longer significant ($p = .2223$). The differences at times 2 $F(1, 115) = 4.38$; $p = .0385$, and 3 $F(1, 115) = 6.49$; $p = .0122$ were still significant but their size was reduced. Using a simulation test for assessing mediation (Selig & Preacher, 2008), the 95% confidence interval for the indirect effect of group on Quality of Life (−3.732, −0.6815) did not contain zero and so indicated evidence of mediation. Some group effects maintained following inclusion of the Arc, indicating that self-determination was a partial mediator of the intervention's effect on quality of life.

3.9. Transition planning

The model for transition planning did not converge in the mixed model and so a general linear model was used. There were no significant omnibus differences between the groups over time for either contrast. The groups did not significantly differ from each other at baseline, $p = .140$, ES = .30, but were significantly different at post-intervention, $p = .0375$, ES = .69. The significant difference between groups was not maintained at follow-up, $p = .205$, ES = .27.

3.10. Use of transition services

For this variable, the model assuming compound symmetry fit about as well as the model assuming unstructured variance–covariance and so the former model was interpreted. There were no significant omnibus differences between the groups over time for either contrast. The groups did not significantly differ from each other at baseline, $p = 0.4168$, ES = 0.25, however the differences at post-intervention, $p = 0.054$, ES = 0.60, and follow-up, $p = .0379$, ES = 0.65, indicated that the treatment group accessed more transition services than the comparison group at these time points.

3.11. Independent living activities

This variable was analyzed with a non-linear mixed model using Poisson distribution with a log link function and the fit appeared adequate. There were no omnibus differences over time between groups, however the groups did differ at post-intervention, $t(116) = 8.21$, $p = .0024$, ES = .92, and at follow-up, $t(116) = 7.58$, $p = .0034$, ES = .58. The groups did not differ at baseline, $p = .2929$, ES = .28. Thus, the treatment group reported higher engagement in key independent living activities at post-intervention and follow-up than did the comparison group.

4. Discussion

Findings from this study provide the first longitudinal, experimental evidence of the efficacy of *TAKE CHARGE* for increasing self-determination, quality of life, use of transition services, employment, high school completion, and independent living of youth in special education and foster care. With the exception of quality of life, the small sample size most likely resulted in the study being underpowered to detect omnibus effects across assessment periods. Nevertheless, consistent non-significant group differences were observed at baseline while significant group differences were detected at post-intervention for self-determination, youth-identified accomplishments, quality of life, youth involvement in transition planning, use of transition services, and engagement in key independent living activities, with moderate to large effect sizes for the differences between groups. Group differences, with moderate to large effects sizes, were maintained at one year follow-up for all variables except transition planning. Furthermore, at one year follow-up, youth in the intervention group demonstrated substantially higher rates of employment and high school completion along with a trend towards greater participation in higher education as compared to youth in the comparison group. These findings provide encouraging support for the efficacy of the intervention to promote positive transition outcomes that are maintained following intervention, and for the first time statistically documents self-determination enhancement as a partial mediator of intervention outcomes, in this instance on quality of life. The low attrition rate also contributes to the robustness of the findings. A closer look at the trajectory of group scores on transition planning indicated that youth in the intervention group leveled out during follow-along while youth in the comparison group

Table 2
Means and standard deviations by study group.

	Comparison group			Intervention group		
	Pretest	Posttest	Follow-up	Pretest	Posttest	Follow-up
Arc Self-determination Scale.	96.78 (18.94)	97.61 (24.64)	100.82 (23.41)	102.38 (19.30)	111.83 (15.16)	115.02 (17.01)
Average number of accomplishments identified.	2.14 (1.79)	1.37 (.93)	1.68 (1.28)	2.58 (1.36)	2.93 (1.67)	2.97 (1.64)
Average number of goals identified.	2.67 (1.60)	1.96 (1.16)	1.76 (1.12)	3.12 (.98)	2.25 (1.42)	2.69 (1.03)
Quality of Life Questionnaire.	74.3 (9.41)	75.81 (11.36)	78.00 (12.54)	76.87 (9.55)	84.3 (8.65)	87.63 (12.78)
Transition Planning Assessment.	18.93 (9.46)	23.29 (11.93)	25.55 (8.77)	21.79 (9.13)	27.97 (6.81)	27.93 (10.28)
Average number of transition services used.	4.87 (1.81)	3.69 (1.92)	3.12 (2.27)	5.34 (2.04)	4.81 (2.77)	4.34 (2.58)
Average number of independent living activities.	0.34 (.33)	0.73 (.81)	1.81 (1.64)	0.44 (.53)	1.72 (1.27)	3.14 (1.62)

became increasingly engaged in transition planning. A potential explanation for this finding is that the youth in the intervention group did not continue to show increasing engagement in transition planning because they were achieving more transition outcomes, compared to youth in the comparison group.

While the study documented the enhanced outcomes of youth in *TAKE CHARGE* compared to those enrolled in the foster care independent living program, caution is urged in drawing conclusions about the absolute value of foster care independent living services. The sample size was small, comparison group youth participated in fewer ILP services than intervention group youth participated in *TAKE CHARGE* activities, and there was not a control group against which to judge the absolute benefits of ILP services. Still, the findings warrant consideration of the benefits of coaching in youth-directed identification and pursuit of goals and mentoring experiences, offered through self-determination enhancement models such as *TAKE CHARGE*, in contrast to more standardized independent living skills training and case management offered through many ILPs. Learning and applying self-determination skills to achieve goals during transition could have longer lasting effects on goal achievement, overcoming barriers, and building allies throughout young adulthood and possibly beyond.

This study was the first to use experimental and longitudinal methodologies to document enhanced transition outcomes (in addition to the outcome of self-determination) of any self-determination intervention; in this case, showing improved outcomes for a very at-risk subpopulation of youth transitioning from special education and foster care. A related study recently completed by our Research Consortium to Increase the Success of Youth in Foster Care (Geenen et al., in press) experimentally evaluated the outcomes of the *TAKE CHARGE* intervention on the educational, transition, and mental health outcomes of 133 youth in foster care and special education. This study was distinct from the My Life study in that youth tended to be younger in age, the intervention occurred over a shorter period of time (9 months) and was focused primarily on educational goals. Similar to the My Life however, the study confirmed the potential of self-determination enhancement. Specifically, the study revealed the benefits of the intervention for promoting youths' identification of goals and accomplishments, educational planning knowledge and engagement, completion of homework, high school credits obtained, postsecondary and career planning, paid employment, and reduced anxiety and depression, as compared to a control group.

While these My Life findings highlight the potential benefits of self-determination enhancement for youth with disabilities in foster care, questions remain about the intervention's effects on the placement stability of these youth. In contrast to approximately 75% of youth with and without disabilities who remain living with their families approximately two years after high school, (Wagner et al., 2005), the living status of youth at follow-up in our study was considerably more varied; 43% of the youth remained in foster care where they were awaiting exit before age 21, about 25% had exited to live with their bio families and a similar percentage had moved into independent housing. The remaining 7% of youth were in other varied living situations. The trends observed in increased placement stability for the intervention group at post-intervention and follow-up could be important and warrant further study as foster placement instability has been associated with risk factors such as decreased school performance, delinquency among males, mental health problems, and homelessness later in life (Anctil et al., 2007).

5. Conclusion

Findings from this study offer encouraging evidence that self-determination enhancement is effective in supporting youth in foster care and special education to promote their transition success. However, limited resources and lack of cross-cutting knowledge of the needs of young people in foster care and special education in child welfare agencies and school districts could make implementation difficult. Coordinated efforts of child welfare agencies and school districts are essential for identifying youth in foster care and special education and for sharing resources in supporting them. The Stewart B. McKinney-Vento Homeless Assistance Act of 1987 provides a potential model for the design of targeted transition services for youth in foster care and special education. For example, school and child welfare resources could be creatively combined to hire liaisons for youth that are youth-directed in their focus, knowledgeable about both systems, and positioned to support youth in learning how to successfully bridge systems in achieving their transition goals. Liaisons could offer self-determination-based support to youth and bring youth and mentors together, drawing upon the efficacious approaches validated in this study.

However, implementation of such an approach would, at the most basic level, require changes to the privacy restrictions in FERPA that prevent schools from disclosing special education status to child welfare, and requirements in IDEA that generally designate foster parents as educational decision-makers and do not provide mechanisms for case workers to participate in youths' education and transition planning, although case workers are youths' legal guardians, having a great deal of influence over youths' life planning and access to resources. Policy reform is necessary in order to remove these obstacles and make it easier for youth to communicate their needs and work with adults from different agencies to support their goals.

Further research also is essential with fully powered sample sizes and extended follow-along periods if we are going to unequivocally determine the benefits of self-determination enhancement for transition success. We also may have reached the time where the efficacy of self-determination enhancement should be evaluated with other at-risk groups, with and without disabilities, such as youth in juvenile justice, homeless youth, and additional youth in foster care. The intervention tested in this study was designed as a universally accessible approach, focused on supporting the transition to adulthood of all youth, including young people with disabilities. In this regard, further study of the relative efficacy of self-determination intervention elements (e.g., coaching hours provided, fidelity requirements for optimal treatment response, near peer mentors vs. caring young adults without shared experience) and comparative effectiveness trials including cost effectiveness studies will be of great importance. We must extend our understanding of self-determination enhancement as an efficacious intervention when compared to community as usual to judge whether it is superior to other approaches deemed efficacious and/or which are currently being provided to young people. Future research in these areas will enable us to more clearly evaluate for whom self-determination enhancement is most helpful, relative outcome and cost benefits of intervention, and under what conditions self-determination can be most effectively promoted and maintained. Self-determination research has high potential for identifying and encouraging the adoption of practices that support youth to shape their futures.

References

Adoption, Foster Care Analysis Reporting System [AFCARS] (2010). Preliminary estimates of children and youth in foster care in 2010. Retrieved on 9/11/11 at. http://www.acf.hhs.gov/programs/cb/stats_research/afcars/tar/report18.htm

Anctil, T. M., McCubbin, L. D., O'Brien, K., Pecora, P., & Anderson-Harumi, C. A. (2007). Predictors of adult quality of life for foster care alumni with physical and/or psychiatric disabilities. *Child Abuse & Neglect*, *31*(10), 1087–1100, http://dx.doi.org/10.1016/j.chiabu.2007.05.005.

Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The Annals of the American Academy of Political and Social Science*, *591*, 98–124, http://dx.doi.org/10.1177/0002716203260102.

Cobb, B., Lehmann, J., Newman-Gonchar, R., & Alwell, M. (2009). Self-determination for students with disabilities: A narrative metasynthesis. *Career Development for Exceptional Individuals*, *32*(2), 108–114, http://dx.doi.org/10.1177/08857288093336654.

Courtney, M. E., & Dworsky, A. (2006). Early outcomes for young adults transitioning from out-of-home care in the USA. *Child and Family Social Work*, *11*(3), 209–219, http://dx.doi.org/10.1111/j.1365-2206.2006.004333.x.

Courtney, M. E., Dworsky, A., Cusick, G. R., Havlicek, J., Perez, A., & Keller, T. (2007). *Midwest evaluation of the adult functioning of former foster youth: Outcomes at age 21.* Chicago: Chapin Hall Center for Children at the University of Chicago.

Courtney, M. E., Dworsky, A., Ruth, G., Keller, T., Havlicek, J., & Bost, N. (2005). *Midwest evaluation of the adult functioning of former foster youth: Outcomes at age 19.* Chicago: Chapin Hall Center for Children at the University of Chicago.

Courtney, M. E., Piliavin, I., & Grogan-Kaylor, A. (1995). *The Wisconsin study of youth aging out of out-of-home care: A portrait of children about to leave care.* Madison: University of Wisconsin-Madison, School of Social Work.

Cross, T., Cooke, N. L., Wood, W. W., & Test, D. W. (1999). Comparison of the effects of MAPS and ChoiceMaker on student self-determination skills. *Education and Training in Mental Retardation and Developmental Disabilities*, *34*, 499–510.

Field, S., Martin, J., Miller, R., Ward, M., & Wehmeyer, M. (1998). *A practical guide for teaching self-determination.* Reston, VA: The Council for Exceptional Children.

Geenen, S. J., & Powers, L. E. (2006a). Are we ignoring youth with disabilities in foster care: An examination of their school performance. *Social Work*, *51*(3), 233–241.

Geenen, S. J., & Powers, L. E. (2006b). Transition planning for foster youth with disabilities: Are we falling short? *Journal for Vocational Special Needs Education*, *28*(2), 4–15.

Geenen, S. J., Powers, L. E., Hogansen, J. M., & Pittman, J. O. E. (2007). Youth with disabilities in foster care: Developing self-determination within a context of struggle and disempowerment. *Exceptionality*, *15*(1), 17–30, http://dx.doi.org/10.1080/09362830709336923.

Geenen, S., Powers, L. E., Powers, J., Cunningham, M., McMahon, L., Nelson, M., et al. (in press). Experimental study of a self-determination intervention for youth in foster care. Career Development and Transition for Exceptional Individuals, http:/dx.doi.org/10.1177/0123456789123456.

Goerge, R. M., Bilaver, L., Lee, B. J., Needell, B., Brookhart, A., & Jackman, W. (2002). *Employment outcomes for youth aging out of foster care.* Chicago, IL: Chapin Hall Center for Children at the University of Chicago.

Hill, K. (2009). Individuals with Disabilities Act of 2004 and John H. Chafee Foster Care Independence Act of 1999: What are the policy implications for youth with disabilities transitioning from foster care? *Child Welfare League of America*, *88*(2), 5–23.

Hill, K. (2012). Permanency and placement planning for older youth with disabilities in out-of-home placement. *Children and Youth Services Review*, *34*, 1418–1424.

Jaskulski, T., Metzler, C., & Zierman, S. A. (1990). *Forging a new era: The 1990 reports on people with developmental disabilities.* Washington, DC: National Association of Developmental Disabilities Council.

Lambros, K. M., Hurley, M., Hurlburt, M., Zhang, J., & Leslie, L. K. (2010). Special education services for children involved with child welfare/child protective services. *School Mental Health*, *2*, 177–191, http://dx.doi.org/10.1007/s12310-010-9026-5.

Lightfoot, E., Hill, K., & LaLiberte, T. (2011). Prevalence of children with disabilities in the child welfare system and out of home placement: An examination of administrative records. *Children and Youth Services Review*, *33*(11), 2069–2075, http://dx.doi.org/10.2016/j.childyouth.2011.02.019.

Martorell, A., Gutierrez-Recacha, P., Pereda, A., & Ayuso-Mateos, J. L. (2008). Identification of personal factors that determine work outcome for adults with intellectual disability. *Journal of Intellectual Disability Research*, *52*(12), 1091–1101, http://dx.doi.org/10.1111/j.1365-2788.2008.01098.x.

Massinga, R., & Pecora, P. J. (2004). Providing better opportunities for older children in the child welfare system. *The Future of Children: Children, Families and Foster Care*, *14*(1), 150–173.

McKinney-Vento Homeless Assistance Act of 1987 (Pub. L. 100–77, July 22, 1987, 101 Stat. 482, 42 U.S.C. § 11301 et seq.).

McMillen, J. C., & Tucker, J. (1999). The status of older adolescents at exit from out-of-home care. *Child Welfare: Journal of Policy, Practice, and Program*, *78*(3), 339–362.

Montgomery, P., Donkoh, C., & Underhill, K. (2006). Independent living programs for young people leaving the care system: The state of the evidence. *Children and Youth Services Review*, *28*(12), 1435–1448, http://dx.doi.org/10.1016/j.childyouth.2006.03.002.

Pecora, P. J., Kessler, R. C., Williams, J., O'Brien, K., Downs, A. C., English, D., et al. (2005). *Improving family foster care: Findings from the Northwest Foster Care Alumni Study.* Seattle, WA: Casey Family Programs.

Powers, L. E. (2006). *Take charge for the future: Student guide (revised).* Portland, OR: Portland State University, Regional Research Institute.

Powers, L. E., Sowers, J., Turner, A., Nesbitt, M., Knowles, E., & Ellison, R. (1996). Take charge: A model for promoting self-determination among adolescents with challenges. In L. E. Powers, G. H. S. Singer, & J. Sowers (Eds.), *On the road to autonomy: Promoting self-competence for children and youth with disabilities* (pp. 291–322). Baltimore: Paul H. Brookes.

Powers, L. E., Turner, A., Ellison, R., Matuszewski, J., Wilson, R., Phillips, A., et al. (2001). A multi-component intervention to promote adolescent self-determination. *Journal of Rehabilitation*, *67*(4), 14–20.

Powers, L. E., Turner, A., Westwood, D., Matuszewski, J., Wilson, R., & Phillips, A. (2001). *TAKE CHARGE* for the future: A controlled field-test of a model to promote student involvement in transition planning. *Career Development for Exceptional Individuals*, *24*(1), 89–104, http://dx.doi.org/10.1177/088572880102400107.

Sands, D. J., Spencer, K. C., Gliner, J., & Swaim, R. (1999). Structural equation modeling of student involvement in transition-related actions: The path of least resistance. *Focus on Autism and other Developmental Disabilities*, *14*(1), 17–27, http://dx.doi.org/10.1177/108835769901400103.

Schalock, R. L., & Keith, K. D. (1993). *Quality of life questionnaire.* IDS Publishing Corporation.

Selig, J. P., & Preacher, K. J. (2008). Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [computer software]. Available from. http://quantpay.org/

Slayter, E., & Springer, C. (2011). Child welfare-involved youth with intellectual disabilities: Pathways into and placements in foster care. *Intellectual and Developmental Disabilities*, *49*(1), 1–13.

Smithgall, C., Gladden, R. M., Yang, D. H., & Goerge, R. (2005). *Behavior problems and educational disruptions among children in out-of-home care in Chicago.* Chicago: Chapin Hill.

Stone, S., D'Andrade, A., & Austin, M. (2007). Educational services for children in foster care: Common and contrasting perspectives of child welfare and education stakeholders. *Journal of Public Child Welfare*, *1*(2), 53–70, http://dx.doi.org/10.1300/J479v01n02_04.

U.S. Government Accountability Office (2011). Foster children: HHS guidance could help states improve oversight of psychotropic prescriptions. Available: gao.gov/assets/590/58657.pdf

Wagner, M., D'Amico, R., Marder, C., Newman, L., & Blackorby, J. (1992). *What happens next? Trends in post-school outcomes of youth with disabilities. The second comprehensive report from the national longitudinal transition study of special education students.* SRI International. Washington, DC: US Department of Education, Office of Special Education Programs.

Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). *After high school: A first look at the postschool experiences of youth with disabilities: A report from the National Longitudinal Transition Study-2 (NLTS2).* Menlo Park, CA: SRI International.

Wehmeyer, M. L. (1996a). Self-determination for youth with significant cognitive disabilities: From theory to practice. In L. E. Powers, G. H. S. Singer, & J. Sowers (Eds.), *On the road to autonomy: Promoting self-competence for children and youth with disabilities* (pp. 115–133). Baltimore: Paul H. Brookes Publishing Co.

Wehmeyer, M. L. (1996b). A self-report measure of self-determination for adolescents with cognitive disabilities. *Education and Training in Mental Retardation and Developmental Disabilities*, *31*, 282–293.

Wehmeyer, M. L., & Kelchner, K. (1995). *The Arc's self-determination scale.* Silver Springs, MD: The Arc of the United States.

Wehmeyer, M. L., & Palmer, S. B. (2003). Adult outcomes for students with cognitive disabilities three years after high school: The impact of self-determination. *Education and Training in Developmental Disabilities*, *38*(2), 131–144.

Wehmeyer, M. L., Palmer, S. B., Agran, M., Mithaug, D. E., & Martin, J. E. (2000). Promoting causal agency: The self-determined learning model of instruction. *Exceptional Children*, *66*(4), 430–453.

Wehmeyer, M. L., Palmer, S. B., Shogren, K., Williams-Diehm, K., & Soukup, J. H. (2010). Establishing a casual relationship between interventions to promote self-determination and enhanced student self-determination. *The Journal of Special Education*, http://dx.doi.org/10.1177/0022466910392377.

Wehmeyer, M. L., & Schwartz, M. (1997). Self-determination and positive adult outcomes: A follow-up study of youth with mental retardation or learning disabilities. *Exceptional Children*, *63*(2), 245–255.

Wehmeyer, M. L., & Schwartz, M. (1998). The relationship between self-determination and quality of life for adults with mental retardation. *Education and Training in Mental Retardation and Developmental Disabilities*, *33*(1), 3–12.

Westat (1991). *A National Evaluation of Title IV_E Foster Care Independent Living Programs for Youth: Phase 2* (Contract No. OHDS 105-87-1608). U.S. Department of Health and Human Services. Rockville, MD: Westat Inc.

Wolman, J., Campeau, P., Dubois, P., Mithaug, D., & Stolarski, V. (1994). *AIR self-determination scale and user guide.* Pal Alto, CA: American Institute for Research.

Wulczyn, F., Smithgall, C., & Chen, L. (2009). Child well-being: The intersection of schools and child welfare. *Review of Research in Education*, *33*(1), 35–62, http://dx.doi.org/10.3102/0091732X08327208.

Zhang, D. (2001). Self-determination and inclusion: Are students with mild mental retardation more self-determined in regular classrooms? *Education and Training in Mental Retardation and Developmental Disabilities*, *36*, 357–362.