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Extending a randomized trial of the *My Life* mentoring model for youth in foster care to evaluate long-term effects on offending in young adulthood

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Abstract

This study addressed fundamental questions regarding the capacity of youth mentoring programs designed for at-risk populations to prevent criminal offending in early adulthood. The *My Life* weekly mentoring model for foster youth incorporates both individual and group mentoring to enhance the understanding and application of self-determination skills to improve transition outcomes. Two major randomized trials of the *My Life* mentoring program for adolescents in foster care were extended with long-term follow-ups into early adulthood to evaluate whether the intervention has enduring effects on delinquency and criminal justice system involvement at two years post-intervention. This study addressed important gaps in mentoring research with three substantial contributions: 1) merging the samples and datasets of two *My Life* studies to increase statistical power and to investigate how participants with different risk profiles respond to the program; 2) collecting and analyzing additional outcomes associated with criminal offending and the associated consequences; 3) extending follow-up into early adulthood to evaluate whether the mentoring intervention has enduring effects.

Overall, our findings demonstrate that there were long-term intervention effects on criminal justice outcomes. About 15% had some form of criminal justice involvement (CJI) in early adulthood, but almost twice as many youth in the control group reported CJI compared to those who had been randomized to receive the mentoring intervention 2-3 years prior. There were clear intervention effects in terms of whether youth had been in jail in the prior year, and for how many days, as well as the range of punitive justice system involvement. Our findings suggest that the model may reduce CJI among groups who are at greater risk, specifically males, as well as young people who do not receive developmental disability services. Additionally, there is some evidence of a protective effect among youth who had no prior delinquency at baseline. However, no treatment effects were observed on measures of self-reported delinquent behavior or arrests, including charge type or severity. We conducted cost analyses for the outcomes with statistically significant improvements for the intervention group, and our findings suggest that providing intensive and structured mentoring by skilled coaches might be a cost-effective approach to reducing criminal justice consequences, particularly if offered to young people who are significant risk for incarceration in young adulthood. Our cost-benefit analysis shows that investment in programming like *My Life* is at the least cost-neutral, and potentially provides a benefit of three times the public expenditure, for every day in jail that program participants avoid.

Overall, the results in this study are consistent with the growing base of knowledge regarding the ability of mentoring interventions to reduce delinquency, crime, and justice system involvement. Our preliminary findings also bear out practice knowledge in the child welfare field about how individual and environmental risks can moderate the effectiveness of interventions with young people. In addition to our findings for effectiveness in reducing CJI among males and among youth who do not receive developmental disability services, our proximal outcome moderation analysis shows that the *My Life* model is more effective in developing self-determination skills with youth experiencing low-to-average risk in terms of placement instability, placement restrictiveness, and traumatic stress symptoms. Combined, these analyses begin to shape future hypotheses about who might benefit from this intervention when targeting criminal justice outcomes.

BACKGROUND AND LITERATURE REVIEW

Of the 250,248 children and youth who exited foster care nationally in 2016, approximately 19% were youth between the age of 16 and 19 and more than 21,000 youth exited through emancipation or running away (US Department Health and Human Services, 2017). Unfortunately, research findings consistently document poor transition outcomes for young people emancipating from foster care, including low levels of educational and postsecondary attainment, employment and self-esteem, as well as high rates of early parenting, homelessness and criminal justice involvement (e.g., Courtney, et al., 2006; Pecora, et al., 2005). Many youth who age out of foster care are ill-prepared for adult roles in terms of educational completion, living skills, and job preparedness (Keller, Cusick, & Courtney, 2007). Substantial percentages experience homelessness, victimization, nonmarital parenthood, and mental health problems (Courtney et al. 2001; Keller, Salazar, & Courtney, 2010; McMillen & Tucker, 1999). Multiple studies document the negative consequences of the abrupt transition to adulthood that emancipated youth experience. One national evaluation revealed that 2.5 to 4 years after aging out of the child welfare system 50% had used illegal drugs and 25% were involved with the legal system (Westat, 1991). Another major study of older youth in foster care found they were more likely than youth in the general population to have committed a range of offenses (theft, drug sales, assault) in the previous year (Cusick & Courtney, 2007). Furthermore, during the period when youth in this sample transitioned out of foster care (between the ages of 17 and 19), 28% were arrested; 12% were convicted of a crime; and 19% spent time in detention, jail, or prison (Courtney et al., 2005).

Poor outcomes are further exacerbated for young people in foster care with disabilities and mental health conditions, who are disproportionately represented in foster care. Studies suggest special education prevalence rates of 30 to 40% for all children and youth in care (Courtney, Piliavin, Grogan-Kaylor, 1995; Geenen & Powers, 2006; Lambros, Hurley, Hurlburt, Zhang & Leslie, 2010), and rates of 50% to 60% for older foster youth (Hill, 2012, Schmidt, et al., 2013; Wulczyn, Smithgall, & Chen, 2009). Pecora et al (2005) documented that 54% of young adults who had recently exited the foster care system had a diagnosed mental health condition and Courtney and colleagues (2011a) found that 33% of Midwest evaluation study participants had social anxiety, 25% had depression, 60% had PTSD, and 15% were taking psychotropic medications. Young people in foster care who are identified with disabilities and/or mental health challenges have been shown to experience even poorer outcomes than youth in foster care without disabilities or mental health experiences (Anctil, McCubbin, O'Brien, Pecora, & Anderson-Harumi, 2007; Geenen & Powers, 2006; Smithgall, Gladden, Yang, & George, 2005). One study found that youth emancipated from care who had a disability (47%) were less likely to be employed, graduate from high school, have social support, and be self-sufficient than emancipated youth without a disability (Westat, 1991). Another study revealed that 18% of foster youth in special education with a primary disability classification of emotional disturbance left school due to being incarcerated (Smithgall, Gladden, Yang, & Goerge, 2005).

The poor outcomes of youth exiting foster care, as well as the increased prevalence of disability identification among youth in care, are most likely related to an interaction of a myriad of factors, including exposure to trauma and maltreatment, poverty, placement instability, lack of consistent adult support and low expectations, and challenges in having to

navigate multiple, often confusing services and supports, which while emphasizing safety and protection, often restrict youth from engaging in typical developmental experiences that can be essential for effectively transitioning to independent adult life (Courtney & Hughes-Hearing, 2005; Day, Riebschleger, Dworky, Damashek & Fogarty, 2012; Hochman, Hochman, & Miller, 2004; Quest et al., 2012; Schmidt et al., 2013; Singer, Berzin, & Hokanson, 2013; Unrau, Font, & Rawls, 2012; Smithgall et al., 2005; U.S. Government Accountability Office, 2004). Criminal justice involvement in adolescence and young adulthood is a particular concern for young people in foster care, with and without disabilities, suggesting the application of evidence-based approaches to prevention that are designed to accommodate the complexities of foster care histories in an effort to prevent criminal behaviors in young adulthood. Further, such preventative approaches need to be developed with an understanding of how particular contextual risks associated with being in foster care—e.g., maltreatment histories and associated traumatic stress, foster placement instability, and environmental restrictiveness affecting normative development—uniquely impact intervention effectiveness.

Mentoring and Criminal Justice Involvement

Formal youth mentoring is a frequently advocated approach for the prevention of delinquency among young people at risk for developing antisocial behaviors (Blechman & Bopp, 2005; Grossman & Garry, 1997; Walker, 2005). Given the widespread and popular support for youth mentoring, numerous studies have attempted to evaluate the effects achieved by various mentoring program models. Systematic reviews of more methodologically rigorous evaluations point to mentoring as a promising intervention (e.g., Jekielek, Moore, Hair, & Scarupa, 2002). Additional validation of the effectiveness of mentoring comes from recent meta-analyses (DuBois et al, 2002; DuBois et al, 2011; Tolan et al, 2008). Both of these meta-analyses found mean effect sizes of .21 for the smaller number of evaluations assessing conduct problems and high-risk behaviors as outcomes. In another meta-analysis focusing on the potential for mentoring to address juvenile delinquency, Tolan and colleagues (2008) reported mean effect sizes of .25 for delinquent behaviors, .40 for aggressive behaviors, and .13 for substance use.

However, very few studies have examined whether mentoring has an impact on outcomes with high levels of policy interest, such as actual involvement with the criminal justice system. For example, DuBois et al (2011) were unable to analyze effects on juvenile offending because fewer than five studies addressing this outcome could be located. Likewise, Tolan et al (2008) identified only ten studies over a period of forty years in which contact with the justice system was a measured outcome. Second, studies of mentoring programs rarely follow youth beyond their program participation to see whether any benefits of mentoring are durable and sustained over time. Only six studies in the meta-analysis focusing on juvenile delinquency had follow-up periods exceeding 18 months from the initiation of the mentoring relationships (Tolan et al., 2008). DuBois and colleagues (2011, p. 79) observe, “the need for long-term follow-up into adulthood is particularly striking.” They further note that studies on critical adult outcomes attributable to earlier mentoring would provide the basis for meaningful investigation of the cost effectiveness of mentoring, another issue that has received little attention. Third, evaluations have rarely isolated the particular components of programs or elements of mentoring relationships essential for achieving positive results. Noting the

insufficient specification of program models and mechanisms of influence, Tolan et al (2008, p. 21) state that “there is little understanding of just what makes an intervention mentoring and what about such labeled interventions is related to benefits derived.” Finally, findings from the meta-analyses suggest mentoring programs demonstrate differing levels of effectiveness depending upon the particular risk profiles of the youth they serve, with a corresponding need to better identify the personal and environmental risks that influence how youth respond to mentoring (DuBois et al., 2011). Because these findings are based on between-program meta-analysis, an important question is whether youth with different risk profiles attain different outcomes within the same program model.

The present study aims to address some of these gaps in the literature by evaluating the effectiveness of a well-defined mentoring model for young people in foster care, many of whom have disabilities which put them further at risk. Additionally, we specifically assess intervention effects on criminal justice involvement, and we evaluate this impact into young adulthood, including intervention costs and benefits. Lastly, we analyze particular intervention components and practice-relevant participant risks on outcomes.

Self-Determination Mentoring

Overall, very little rigorous research has been conducted to evaluate the outcomes of interventions designed to support youth exiting foster care, and virtually no investigation has been conducted on factors that could affect youths’ response to supportive interventions. One promising area for study originating in positive youth development, health self-management, and transition support for youth in special education has been self-determination enhancement (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Deci & Ryan, 2002; Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Gloppen, David-Ferdon, & Bates, 2010). Several generally congruent definitions have been used to frame the construct of self-determination. For example, Deci and Ryan (2002) described self-determination in terms of intrinsic motivation driven by universal needs for competence, autonomy, and relatedness. Wehmeyer (1996) 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 and colleagues (1996) 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, and to exercise rights and responsibilities, in the context of one’s culture, experiences, and aspirations.

Self-determination has surfaced as a critical factor associated with improved transition outcomes, reflecting growing recognition of the importance of building the capacities of youth to be change agents in their own lives (Wehmeyer & Palmer, 2003). Furthermore, a number of interventions developed to promote self-determination have been evaluated. A meta-analysis of 22 peer-reviewed studies of interventions to promote self-determination skills reported an average effect size of 1.38 and a standard error of 0.37 (Algozzine et al., 2001).

Our self-determination approach, referred to as the *My Life* model (MLM), features youth-directed one-on-one weekly mentoring/coaching, plus near-peer mentoring and peer support. Over the course of a year, youth are supported to identify and pursue transition to adulthood goals that they prioritize as most important, and in the context of pursuing their goals, they learn and practice key self-determination skills relating to achievement (e.g.,

decision-making, problem-solving, planning), building allies (e.g., schmoozing, negotiation, partnership planning), and self-regulation (e.g., thinking positive, managing frustration and stress). They also participate in 4-5 mentoring workshops, which focus on topics selected by youth and provide opportunities for learning, for sharing experiences and ideas among same-age and older peers having similar life experiences, and for fun and recreation. Through both youth-directed coaching and mentoring, the MLM aims to provide young people with information, skills, opportunities, and support to successfully identify and pursue their goals, to establish and utilize partnerships with supportive adults and peers, and to appreciate and foster their strengths and confidence.

The MLM has been experimentally evaluated with both youth with disabilities and youth in foster care with disabilities, including mental health challenges. Adapted from an approach originally experimentally validated with students in special education by Powers and colleagues (2001a; 2001b), the MLM has shown promising outcomes in two longitudinal RCT studies involving youth in foster care with disabilities. The first pilot study included 69 young adults in foster care and special education, and was evaluated using a two-independent groups X 3 repeated measures design with a 12-month intervention and one-year post-intervention follow-along. The intervention group achieved significantly greater gains in self-determination, quality of life, transition planning, and performance of independent living activities, compared to the control group (Powers, et al., 2012). Furthermore, self-determination enhancement was shown to mediate improvement in facets of quality of life, such as connections with others, social inclusion, individual control, community integration, productivity, and well-being (Powers et al, 2012). A subsequent longitudinal RCT evaluated the efficacy of the model, delivered over nine months, on the secondary and transition outcomes of 123 high school students in foster care and special education. Findings revealed significantly greater gains for the intervention group on indicators of self-determination, engagement in educational planning, school performance, postsecondary preparation and reduced anxiety and depression (Geenen et al., 2013).

Although the MLM has shown encouraging findings with youth in care with disabilities and mental health challenges, our investigative team has yet to report findings from two large-scale experimental studies with youth in foster care with and without disabilities, as well as the potential impact of demographic factors (e.g., age, sex, disability) and known contextual stressors for youth in foster care (i.e., previous trauma, placement instability and environmental restrictiveness), and specific model components. Further, intervention influences on criminal justice involvement in the short- and long-term have not yet been explored. Thus, the primary purpose of this study was to conduct a comparatively larger and longer-term study of the impact of *My Life* on key self-determination, self-efficacy, adulthood preparation and functioning, and well-being outcomes of a highly diverse, population-based cohort of youth exiting foster care, including those with and without disabilities and mental health challenges. Further, the potential moderating effects of trauma, placement instability, and placement restrictiveness on response to intervention were examined. Lastly, we specifically assess the model's impact on a range of juvenile justice and adult criminal justice outcomes among transition-age youth in foster care, and we consider the cost-effectiveness and cost-benefit of an intensive and theory-driven mentoring approach to prevent criminal justice outcomes in young adulthood.

Description of My Life Model

Grounded in theoretical principles on the development of personal self-efficacy (Bandura, 1977, 2006), the MLM emphasizes facilitation of positive self-attributions through accomplishments; vicarious learning and social persuasion from mentors and other influential adults; and acquisition of self-regulation strategies. Thus, *My Life* mentoring uses a purposeful advocacy and teaching approach associated with positive outcomes (DuBois et al., 2011). Primary components of the model are: 1) individualized mentoring with a focus on applying self-determination skills; and 2) group mentoring workshops addressing transition topics.

Individualized mentoring. Youth participants meet weekly with their mentors for 60-90 minutes, typically during unscheduled class periods, immediately before or after school, or in the evenings or on weekends (whichever is most feasible for the youth). Mentors are trained to use meetings to help youth learn to apply skills—in the primary domains of *achievement* (e.g., setting goals, making decisions, problem-solving), *partnership development* (e.g., schmoozing, negotiating), and *self-regulation* (e.g., thinking positive, focusing on accomplishments, guarding against stress)—by following a small number of systematic steps (Powers, 2006). Mentors help youth learn each skill by rehearsing strategies (e.g., role-play negotiating a goal with a foster parent), practicing activities necessary for goal achievement (e.g., call an agency to obtain information), cheering youth progress, and occasionally challenging the youth to take action. In general, during the course of the program, the mentor is expected to engage with the youth in a balanced combination of didactic, experiential, and relationship-building activities.

The *My Life* model accommodates the complexity of the lives of many youth in foster care in various ways. First, rather than supporting youth to learn and apply skills sequentially as presented in the self-help guide, mentors introduce skills as opportune "learning" and "practice" moments arise. Thus, a youth who is in crisis may be exposed to the steps of problem-solving before setting any goals. Once his or her immediate problem is addressed, the mentor steers the youth toward goal setting. To encourage the experience of success early on, mentors often begin by helping youth identify a valued goal that can be achieved relatively quickly (e.g., request school transcript) to demonstrate problem-solving, introduce the youth to requesting adult support, provide encouragement, and celebrate success. While mentors have flexibility in sequencing program elements, to demonstrate fidelity, a specific set of elements must be covered with every youth. Over time, as the youth demonstrates increasing ability to accomplish goals, the mentor fades his/her direct involvement in facilitating activities and encourages the youth to identify more complex and personally-valued goals. Ultimately, mentors encourage youth to develop an individualized transition plan to share with the important adults in his or her life (e.g., teacher, foster parent, biological family, caseworker).

My Life mentors are adults who have training and talent for working with youth, and they may be project staff or supervised MSW students. Each mentor undergoes a three-day training and then participates in weekly group and individual supervision to ensure that *My Life* program expectations are being met. Also, mentors videotape at least 6 meetings with youth for investigators to evaluate the mentor's utilization of key self-determination facilitation techniques. Specifically, the focus is on mentors highlighting at least one youth accomplishment or strength; naming and discussing the application of a target skill; supporting the youth to carry out elements of an activity; and identifying next steps for youth and mentor.

Group Mentoring. Each youth in the *My Life* program is expected to participate in at least four group mentoring workshops. Workshops are offered frequently throughout the year, and participants are encouraged to attend as many as possible. Youth identify transition topics for the workshops, such as employment, postsecondary education, exiting foster care, and leading a transition meeting. Young adults who were formerly in foster care and have recently had successful transition experiences serve as the workshop mentors. Mentors complete an application, interview, and training to prepare them for the workshops related to their interests and expertise. Project staff organize and facilitate the workshops, which combine didactic, experiential and recreational activities.

RESEARCH QUESTIONS AND OBJECTIVES

Study Objectives

This study extended the capacity of two large-scale *My Life* trials to address important gaps in mentoring research with three substantial contributions: 1) merging the samples and datasets of the two studies to increase statistical power and to investigate how participants with different risk profiles respond to the program overall, and to primary intervention components and activities; 2) collecting and analyzing outcomes associated with criminal offending and justice system involvement; 3) extending the study into early adulthood to evaluate whether mentoring has enduring post-intervention effects.

Merging samples. Data from the two *My Life* studies were merged for secondary analyses. The two studies feature identical research designs, interventions, procedures, and highly overlapping measures. The primary distinction is the composition of the samples, with one study enrolling youth in foster care and the other enrolling foster youth who are in special education. Further, match-level data was extracted from an implementation fidelity assessment to capture exposure to program components (time spent on *experiential, didactic, and relationship-building* activities; skill-building in *achievement, partnership, and self-regulation*).

Augmenting assessments. The two *My Life* studies assessed some conduct problem behaviors associated with delinquency, such as aggressive and destructive behaviors measured with the Child Behavior Checklist. However, the studies collected minimal data on outcomes with high relevance to policy-makers in the realm of criminal justice, such as actual criminal offending, arrest, or incarceration. Major assessments in this project included a new self-report measure of criminal behaviors, the well-validated Self-Report Delinquency Scale (Piquero, Macintosh, Hickman, 2002), supplemented with items from the NYS Delinquency Checklist (Elliott, Huizinga, & Menard, 1989). The assessment also obtained detailed information on arrests, charges, sentences, days incarcerated, and probation.

Extending follow-up measurement of outcomes. The OJJDP study extended the two *My Life* trials by adding another year to the post-intervention follow-up period. Youth participants who were completing their final assessments one year after conclusion of the *My Life* program were enrolled directly into to the OJJDP project. The OJJDP study continued the same assessment protocol (augmented with justice-relevant items) without interruption for an additional year. Thus, data collection for the OJJDP study included a major assessment two years after conclusion of the *My Life* program, when participants were 19-20 years old. In addition, a number of criminal justice-related measures were added for Time 4 assessment.

Cost analysis. Mentoring has become a recommended intervention to improve foster care transition outcomes (Spencer, Collins, Ward, & Smashnaya, 2010), with the understanding that these youth are expected to present relatively high personal and contextual risks that are likely beyond the capacity of many traditional community-based mentoring programs. The field would benefit from longer-term testing of model effectiveness with this population, and delineation of the program effects that inform delinquency prevention with higher-risk youth in general. Further, because this program model is more costly than community-based volunteer models, we need to assess whether costs are balanced by a potential reduction in delinquency.

Specific study aims. 1) To experimentally evaluate the impact of the *My Life* mentoring intervention on criminal offending into early adulthood; 2) To determine whether the risk profiles of participants differentiate the extent of *My Life* program effects; 3) To investigate how particular program components and mentoring practices contribute to positive effects on participant outcomes; and, 4) To evaluate the cost-effectiveness and cost-benefits of the *My Life* youth mentoring program based on outcomes assessed in early adulthood.

Research Questions and Hypotheses

Table 1 shows the research questions for which we have sufficient basis for hypothesis, as well as exploratory questions about differing youth risk profiles and program cost analysis.

Table 1: *Research Questions and Substantive and Null Hypotheses*

RQ¹	Does the <i>My Life</i> mentoring program for youth in foster care reduce the probability of criminal offending following intervention and into early adulthood?
H ₁ ¹	Participants in the <i>My Life</i> program will have a lower probability of criminal offending and justice system involvement into early adulthood than members of the control group.
H ₀ ¹	Participants in the <i>My Life</i> program will show no differences on criminal offending and justice system involvement into early adulthood compared to the control group.
RQ²	Do the effects of the <i>My Life</i> program systematically differ by the nature and level of personal and environmental risks experienced by participants?
RQ³	To what extent are particular components in the <i>My Life</i> model responsible for effects observed on participant outcomes?
H ₁ ³	Skill development in the areas of achievement, partnership, and self-regulation will partially mediate intervention effects.
H ₀ ³	Skill development in the areas of achievement, partnership, and self-regulation will not mediate intervention effects.
RQ⁴	To what extent are particular mentor practices in the <i>My Life</i> model responsible for intervention effects observed on participant outcomes?
H ₁ ⁴	Didactic, experiential, and relationship-building activities will partially mediate effects.
H ₀ ⁴	Didactic, experiential, and relationship-building activities will not mediate effects.
RQ⁵	How cost-effective is the <i>My Life</i> intervention, with respect to the program costs associated with any program effects on delinquency outcomes in early adulthood?
RQ⁶	Are intervention costs exceeded by the benefits (cost savings in public expenditures) attributable to program effects on delinquency outcomes in early adulthood?

STUDY METHODS

Merging the *My Life* Samples

We combined, augmented, and extended two methodologically rigorous, large-scale randomized trials of the *My Life* mentoring program funded by the National Institutes of Health (NICHD: National Institute on Child Health & Human Development, total costs: \$2.85M) and the U.S. Department of Education (IES: Institute of Education Sciences, total costs: \$2.93M). The NIH study involved adolescents in the child welfare system in general (n=150) and the IES study involved adolescents involved both in the child welfare system and in special education (n=150). The two studies had parallel designs and common measures, making it possible to combine the data for secondary analyses. In both studies, older adolescents (i.e., 16-17 years old) completed a comprehensive baseline assessment (hereafter, “Time 1”), were randomly assigned to the control condition or to receive *My Life* mentoring for one year, completed a post-intervention assessment (12 months, or “Time 2”), and then completed a follow-up assessment one year after conclusion of the program (24 mos., “Time 3”). The current OJJDP-funded project extended each study by adding another wave of assessment two years after the conclusion of the program (36 mos., “Time 4”), when the participants were in transition to independent adulthood. In addition, the project made it possible for the two studies to address criminal offending and justice system involvement by adding assessments of these outcomes.

Participants

The sampling frame for the 293 youth recruited to the combined study included three criteria: (a) 16.5 to 18.5 years of age, (c) under the guardianship of Oregon DHS (with at least 90 days in foster care) and (d) residing in the study’s target geography. The sampling of all eligible foster youth in three counties yielded a sample that is geographically diverse, reflecting the primarily urban population of Multnomah County (Portland), primarily suburban population of Washington County, and primarily rural population of Clackamas County. The state foster care agency generated a list of all youth who met eligibility requirements and all were approached for participation, except in rare instances in which a caseworker expressed a concern (e.g. youth was in crisis, in the process of moving out –of –state, or non-English speaking, etc.) or the youth was in a placement that did not allow access to the community as required for the intervention (e.g. youth was incarcerated or in a locked residential treatment setting). Over 90% of youth chose to assent to the study following an orientation meeting and the state child welfare agency provided consent. All study procedures, consents and protocols were reviewed and approved by the Institutional Review Board of the University (Appendix A), the DHS Child Welfare Research Unit, and the Research Review Committees of partnering school districts.

To ensure that the intervention and control groups would be relatively similar on key demographic variables, prior to randomization, youth were blocked on whether they participated in the Independent Living Program (ILP), or received special education or Developmental Disability services. While participation in the state ILP was based on youth self-report at baseline, special education status was provided by the partnering school districts and developmental disability status was provided by the county-level Developmental Disability Services agency; to enable this sharing of information, data sharing agreements were established with all partnering agencies at the beginning of the study.

Table 2 below shows the demographics for the combined My Life sample. Note that there were no significant differences between groups for any of the listed characteristics.

Table 2. Sample demographics for combined My Life studies

Characteristic	Control (n = 149)	Intervention (n = 144)	Total (n = 293)
Age (Mean)	17.32 (SD=.61)	17.30 (SD=.62)	17.31 (SD.61)
Gender (Female, %)	74 (49.7%)	83 (57.6%)	157 (53.6%)
Ethnicity (%)			
Hispanic	26 (17.4)	26 (18.0)	52 (17.7)
Race			
Native American	13 (8.7)	6 (4.2)	19 (6.5)
Asian	2 (1.3)	3 (2.0)	5 (1.7)
African American	27 (18.1)	24 (16.7)	51 (17.4)
Pacific Islander	0 (0.0)	3 (2.0)	3 (1.0)
Caucasian	72 (48.3)	63 (43.8)	135 (46.1)
Multi-racial/other	35 (23.5)	45 (31.3)	80 (27.3)
Placement type			
Non-relative Foster Care	101 (67.8)	86 (59.7)	187 (63.5)
Relative Foster Care (Kinship)	34 (22.8)	42 (29.2)	76 (25.9)
Group home/Residential Treatment	8 (5.4)	7 (4.9)	15 (5.2)
Other (with a friend/own apartment)	6 (4.0)	6 (4.3)	12 (4.1)
Length of time in foster care (mean years)	5.99 (SD=4.54)	5.88 (SD=5.04)	5.94 (SD=4.79)
Experienced placement change in past year	52 (34.9)	60 (41.7)	112 (38.2)
Total number of placement moves past year	3.51	2.98	3.26
Special Education Disability	88 (59.1)	86 (59.7)	174 (59.4)
Receiving Developmental Disability Services	33 (22.1)	34 (23.6)	67 (22.9)
Enrolled in Independent Living Program	66 (44.3)	57 (39.6)	123 (42.0)
Currently attending school/GED	134 (89.9)	139 (96.5)	273 (93.2)

Attrition. Samples of youth in foster care are subject to attrition due to incarceration, runaway, and placement changes. The tracking strategies developed for the *My Life* studies have been documented (Blakeslee, Quest, Powers, et al., 2013), and overall attrition across Time 1-3 was a relatively low 21%. At baseline, 293 youth were enrolled in the combined study, assessed, and randomized to condition (149 control, 144 treatment). At Time 2 (post-intervention, 12 months past baseline), 248 youth were assessed (132 control, 116 treatment): 26 youth had withdrawn and 19 could not be located. At Time 3 (24 months past baseline), an additional 9 youth had withdrawn and an additional 8 youth could not be located, with 231 youth completing the last originally-scheduled assessment (123 control, 108 treatment).

Control Group. The control group received typical transition services, which can include general and special education classes, special education case managers, individualized transition planning, and extracurricular activities. Typical transition services for foster youth include the Independent Living Program (ILP), with classes designed to prepare youth for independent living and one-on-one work with an ILP case manager to develop a transition plan.

My Life Measures

Data were collected by trained graduate students blind to the study condition. Selected measures that were administered at major assessment points are listed in Table 3 and included in Appendix B. Participants completed numerous valid and reliable scales used in previous research to assess proximal and distal outcomes. The project also collected extensive demographic, school, and foster care history from administrative records.

Table 3. *My Life proximal outcome measures and moderators*

Key Constructs	Measures
<i>Self-Determination/</i>	ARC Self-Determination Scale (<i>Wehmeyer & Kelchner, 1996</i>)
<i>Self-Efficacy</i>	Career Decision Self Efficacy Scale (<i>Benz, 1996</i>) <i>My Life</i> Activity Checklist (MLAC)
<i>Moderators</i>	Trauma symptoms (CROPS: <i>Greenwald & Rubin, 1999</i>) Placement restrictiveness (based on <i>Rautkis et al., 2009</i>) Placement stability (days per foster placement) Intervention model fidelity

Arc Self-Determination Scale. This 72-item self-report measure provides an overall score and four subscales, and has been normed with over 500 students with and without disabilities and has been found to have adequate validity and reliability (*Wehmeyer, 1996*). 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*).

Career Decision Self-Efficacy Scale (CDSE). The 25-item CDSE short form measures belief that one can complete tasks necessary to achieve career and educational goals. All five scales in the short form have acceptable coefficient alpha values ranging from .73 (self-appraisal) to .83 (goal selection) (*Betz, Klein, & Taylor, 1996*).

My Life Activity Checklist (MLAC). The 44-item LAC was developed to assess key transition-related indicators of independent living, postsecondary participation and career preparation. Items included: “Signed up with a doctor to see as an adult; Completed an application for college or vocational school; and Shadowed someone working in a career that interests me.” The LAC built upon tools used in previous studies evaluating transition outcomes (*Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997*) and derived from key questions from other instruments used to assess outcomes (e.g. *Newman et al., 2011*).

Placement stability. This is based on the total number of days in foster care divided by the number of placements for the current episode (i.e., since most recent foster care entry or re-entry), as collected through the child welfare agency’s administrative database. Placement instability is associated with a number or poor foster care outcomes and is expected to impact youth and caregiver capacity to engage in the intervention. The baseline sample mean (N=270) is 511.52 days per placement (SD=616.31) with a median of 312.05 days.

Placement restrictiveness. Restrictiveness was measured with three items from the validated Restrictiveness Evaluation Measure for Youth (Rautkis et al., 2009) which assess perceptions of restrictions on communication with others, ability to move freely in the home, and community participation. This moderator is selected with the expectation that restriction is potentially more influential on intervention effectiveness than disability or placement type. The baseline sample mean (N=292) is 5.05 (SD=2.14) on 3-15 point scale with a 4.00 median.

Traumatic stress. Trauma symptoms that may impact intervention effectiveness were measured using the 25-item Child Report of Post-traumatic Symptoms (CROPS) (Greenwald, 1999). The range is 0-50 and scores of 19 and above suggest potential clinical interest, though not necessarily diagnosis. The CROPS has been normed with youth who were incarcerated or had an incarcerated parent, where about 30-40% exceeded the cutoff, with scores of 16-19 on average (e.g., Arditti & Savla, 2015; Bockneck, Sanderson, & Britner, 2008; Perkins et al., 2016). The *My Life* baseline sample mean (N=285) is 16.24 (SD=8.71) with a median of 15.0 and 37% of the participants being above the 19-point cutoff indicating clinical interest.

Intervention model fidelity. The fidelity of implementation (FOI) checklist measures the extent to which model components are in place (see Appendix B). Direct youth contact minutes are differentiated as *didactic* versus *experiential* (discussing a skill vs. supporting youth to apply skill), or focused on *relationship-building*. Mentors also log participant skill development in 38 activities in the categories of *achievement*, *partnership*, and *self-regulation*. Fidelity was achieved for a skill when it was 1) named, 2) the steps were described (e.g., steps for setting a goal) and 3) the steps were rehearsed or performed. Overall, these fidelity measures assess whether mentoring activities are consistent with the intervention model, and whether mentoring includes a minimum of 50 hours of direct contact once a week for 12 months.

My Life Time 4: Extending and Enhancing Assessment

The present study added an additional assessment time point (Time 4, at month 36) to collect the same measures as the earlier time points, as well as additional assessment instruments specific to criminal justice system involvement.

Recruitment. We recruited the original *My Life* participants after they completed their Time 3 assessment one year post-intervention, with an explanation that continuing on to Time 4 was voluntary, as they had completed the original *My Life* study. There was 21% attrition from Time 1 to Time 3 (N=231), and 36 participants (16%) then declined to participate in the new, additional assessment. Therefore, 196 of the original participants “enrolled” in the Time 4 study, and 36 (18%) of these could not be located or scheduled. A total of 172 participants completed Time 4 assessment (75% of the eligible Time 3 sample, or 88% of the youth who agreed to Time 4 assessment), but not all of these completed the criminal justice measures added for Time 4; for example, Time 4 had new self-report delinquency and criminal justice measures (e.g., arrests and convictions, days incarcerated), but six participants had modified assessments completed by caregivers due to developmental disability. For these young people, we include caregiver report of formal justice system involvement, as caregivers can likely provide reliable data around events such as arrests, but did not include caregiver responses on behalf of the youth for the self-report delinquency scales. A total of 158 participants completed the full assessment with the new criminal justice measures, as shown in Table 4.

Table 4. *My Life Time 4 (“T4”) Assessment Completion*

Number of participants eligible for the T4 study (based on T3 completion)	231
Declined to be contacted for future studies (prior to T4 award)	22
Declined to be contacted specifically for funded T4 study	14
Number of enrolled T4 participants to assess	195 (84% of 231)
Number of eligible T4 assessments that expired without completion (T4 attrition)	36
T4 assessments conducted	172 (88% of 195)
Missing electronic data file due to technical issues (missing all T4 data)	3
Modified assessments (completed by caregiver on behalf of youth, missing outcome survey and/or delinquency/criminal justice data)	6
Participant did not complete assessment (missing outcome survey and/or no delinquency/justice data)	5
Total participants with T4 self-report delinquency and/or criminal justice outcomes	158 (92% of 172)

Measures. In the original *My Life* RCT studies, participants were asked, “In the past 12 months, have you been in trouble with the law - juvenile justice, OYA, etc.?” (where OYA stands for Oregon Youth Authority). In addition to this indicator, The new Time 4 criminal justice measures are shown in Table 5 below and include validated delinquency and community violence scales (also used in the Midwest Study and the Add Health studies), and self-report of criminal justice system consequences (see Appendix B). Otherwise, the T4 assessment protocol mirrored the original studies.

Table 5. *Time 4 Criminal Justice Measures*

New Variables	Measures
<i>Criminal Justice Outcomes</i>	Delinquency and Community Violence Scales (Elliott, Huizinga, & Menard, 1989; Piquero, Macintosh, Hickman, 2002) Prior-year arrests and convictions by type and severity Prior-year days incarcerated or supervised by the court
<i>Moderators</i>	Gender Special Education (SPED) service status (proxy for identified disability) Developmental Disability (DD) service status Baseline delinquency (“trouble with the law” and/or running away)

Participants. Additional criminal justice data was collected from 158 participants (81 in the control group and 77 in intervention). The Time 4 sample is 55% female, mean age 20.42 (SD=.72), and is 19% Hispanic/Latino, and 47% White, 17% Black or African American, 6% American Indian/Alaskan Native, 17% multi-racial, and 14% other. At Time 4, 60% received special education (SPED) services in high school due to an identified disability, including developmental disability (26% of sample), emotional/behavioral disturbance (17%), learning disability (13%), cognitive/ intellectual disability (8%), and other physical disability/health impairment (12%). Prior to analysis, we confirmed that the treatment groups for the smaller Time 4 sample were still statistically equivalent on the baseline demographics (race/ethnicity, SPED status, DD status, and gender), and also by whether they had indicated baseline delinquency three years before, prior to intervention (23% of the T4 sample).

Data Analysis for the Extended Time 1-4 Study

Analysis of the combined *My Life* samples dataset with the additional Time 4 follow-up data addressed the research questions by evaluating: (1) program effects by comparing *My Life* (ML and control/community as usual (CAU) groups; (2) ML components and baseline risk factors as potential moderators of these intervention effects; and (3) program cost-effectiveness and cost-benefit ratios.

Proximal intervention effects. The combined samples *My Life* analysis is a two (group) by three (Times 1-3) or four (Times 1-4) design with repeated measures on the time factor. There are three basic ways to analyze such data with continuous variables: standard repeated measures ANOVA, which assumes compound symmetry of the repeated factor variance-covariance matrix, multivariate analysis of repeated measures, which requires the variance-covariances to be equal across groups, and general linear mixed models (GLMM), which allow for more complicated forms of the variance-covariance matrix (including individual assessment of each variance and covariance). We chose GLMM based on analysis of the variance-covariance matrix, and also because unlike the other approaches, it does not require listwise deletion of missing data (i.e., subjects with data at any time point are included in the analysis), which will provide unbiased estimates of the parameters under less restrictive missing data assumptions.

There are two different models that could be used for repeated measures analyses with GLMM: one that assumes time is a fixed factor and compares group differences by time, versus a growth curve model that assumes time is an ordered, continuous variable and estimates the slope and intercept as parameters in the model. We chose to use the growth curve model since we had no reason to expect that growth over time would be linear. Such an analysis determines the main effects of group (averaged across time) and time (averaged across groups), and also the group by time interaction. Because the original *My Life* study had three time points, the interaction has two degrees of freedom representing two independent hypotheses. In the event that effect of the intervention varied between times, we added pairwise comparisons of time 1 vs. time 2 and time 1 vs. time 3. When adding the fourth assessment, the number of pairwise comparisons increase, which requires a more stringent statistical significance level when comparing Time 4 data to the earlier time points.

We examined all the variables to ensure that any deviations from normality were acceptable for the sample size. We estimated each model using an unstructured variance-covariance matrix (individual estimates of each variance and covariance) and using a compound symmetric form of the matrix. We compared the fit of each of these models using chi-square tests on the difference of the log likelihoods (-2 times the log likelihood) to determine which of the models fit the data better. Degrees of freedom for each model were estimated by the method of Kenward and Roger (1997). Each of these models include baseline gender and age as covariates.

Moderator analyses. In the primary outcomes analysis, the ML group but not the CAU group is expected to improve over time on outcomes, and the rate of improvement is also predicted to be greater in the ML group than in the CAU group. This study includes a range of additional analyses to investigate whether the *My Life* program is differentially effective depending on participant risk status. Specifically, the moderation analyses test whether the group by time interaction used to test for main effects statistically varies at different values for the moderator overall, and whether these differences are seen in the pairwise comparisons (e.g., T1 to T2 differences in the groups on the outcomes at specific risk levels). Initial analysis tested for moderation by receipt of special education or developmental disability status. Then preliminary analyses focuses on variables posited to have potential influence on the proximal intervention outcomes: restriction of foster placement, traumatic stress symptoms, stability of previous foster placements, and indicators reflecting fidelity of implementation of the theoretical dimensions of the intervention model.

Power analysis. Power analysis was conducted for the Time 4 CJI variables following Cohen's guidelines (1992). For a two-tailed test of intervention group differences on a dichotomous dependent variable ($df=2$) with $\alpha=.05$ and .80 power, a sample size of 107 is required to detect a medium effect and 785 is required to detect a small effect; for a one-tailed test, the required sample size is 86 and 771. For a two-tailed test of group differences on a continuous dependent variable with $\alpha=.05$ and power of .80, the required sample for a medium effect is 64 and for a small effect it is 393; for a one-tailed test, required sample is 50 and 310. The T4 study sample ($N=158$) is therefore underpowered to detect small effects on the outcomes. Due to low power and clear directional hypotheses for most analysis, the reported p-values are one-tailed, unless otherwise indicated.

Cost analyses. Cost analyses rely on the prospective tracking of costs associated with intervention delivery. Cost-effectiveness shows how much it costs to achieve an outcome of interest (e.g., reduced delinquency), and the standard effectiveness ratio takes the form: (intervention cost)/(desired outcome). Based on hypothesized differences favoring ML group outcomes over the CAU group, initial intervention cost-effectiveness ratios are calculated for delinquency-related outcomes, such as cost per averted arrest. The expenditure per participant is calculated based on prevailing averages for that type of service (e.g., average incarceration cost per day). Because uncertainties are inherent in such calculations, we carefully describe our estimation process and suggest which assumptions may be sensitive to adjustment so readers can calculate estimated costs in their context (Yates, 1996).

FINDINGS

Transition Outcomes

Participants completed an outcome survey at each time point to capture education, employment, and other transition-related outcomes. These are summarized below with preliminary reports of differences between the treatment (*My Life*) and control (CAU) groups at each time point. Overall, we do not see a pattern of statistical group differences prior to examining these outcomes in depth (e.g., with covariates like special education status, gender). Baseline data is shown in Table 2 above. In the comparisons summarized below, there is only one trend-level statistical group difference, for post-secondary enrollment at Time 4.

Time 2. At the end of the intervention year, 53.7% in the control group were still in high school, while 6.8% had dropped out, 14.4% had graduated with modified diplomas, and 25.0% earned a regular diploma. In the treatment group, 54.3% were still attending high school, 12.9% had dropped out, 8.6% had a modified diploma, and 24.1% had a regular diploma. For those still in high school, more control versus treatment youth (40.0% vs. 30.2%) were behind in credits, while fewer control versus treatment youth (22.7% vs. 28.4%) were involved in postsecondary school or training. On other outcomes, 8.4% of control and 7.7% of treatment youth were a parent, and, as was the case at baseline, a larger number of control vs. treatment youth had run away from home in the past 12 months (18.9% vs. 12.9%) or had been homeless in the past year (12.9% vs. 11.1%). At Time 2, 72.7% of control group youth and 74.4% of treatment youth were still in foster care, and 23.5% control vs. 19.6% of treatment were working.

Time 3. At one-year post-intervention, 19.5% in the control group were still attending high school, while 67.5% had graduated, and 13.0% had dropped out. In the treatment group, 16.6% were attending high school, while 62.9% had graduated, and 20.4% had dropped out. Among youth still in high school, 54.2% control and 44.4% treatment were behind in credits. A similar number of control versus treatment youth (29% vs. 27.8%) reported being involved in postsecondary education or training. At one year post-intervention, 10.6% control and 10.2% treatment youth reported they were parents. Relatively few young people reported that they had run away from their placement in the past year (8.1% control vs. 6.5% treatment) while more reported that they had been homeless in the same time frame (21.1% control and 15.7% treatment). Similar numbers of youth in the two groups were still in foster care at Time 3 (59.7% control and 60.0% treatment). 31.7% of control and 26% of treatment youth were employed, with only a few youth (6.5 and 5.6%) working in a career area of interest.

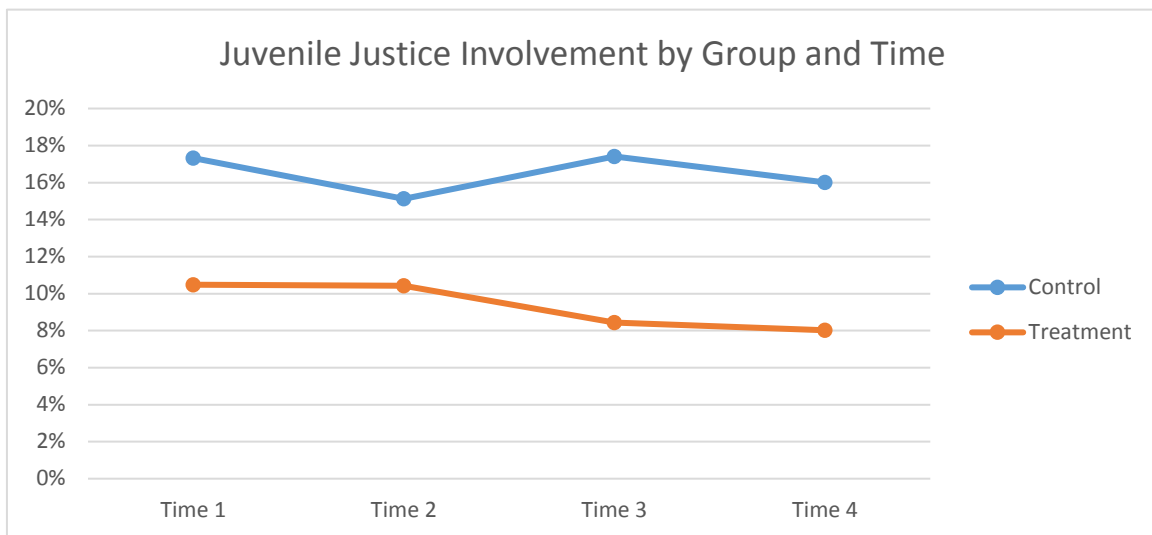
Time 4. At two years post-intervention, 85.0% of control youth had graduated high school or earned a GED, while 84.1% of treatment youth had done the same. 28.6% (n=24) in the control group versus 40.3% (n=29) had been enrolled in post-secondary education or training in the past year ($\chi^2=2.368$, $p=.085$). 44.3% of the control group and 40.6% of the treatment group were working (90.9% vs. 96.4% said this was competitive employment). 75.6% of control and 83.6% of treatment had an idea of what they wanted to do for a career. Lastly, 22.6% of control vs. 16.4% of treatment youth were parents. 23.5% of control and 19.2% of treatment youth had been homeless in the past year (of these, 29.4% had been homeless once or for less than 30 days, and 70.6% were homeless more than once or for more than 30 days). 40% of the control group and 46.6% of the treatment group were still in care, some were with biological family (5.9% and 11.0%) and some had aged out (54.1% and 42.5%).

Criminal Justice Outcomes

Original *My Life* Indicator

Analysis of the original outcome measured by the *My Life* study —past-year “trouble with the law, juvenile justice, etc.”—shows that justice system involvement is lower in the treatment group at all time points, and is significantly lower at Time 3.

- At Time 1, 27 control (18.4%) and 19 treatment (13.4%) youth reported they had been in trouble with the law or involved in the juvenile justice system in the past year.
- At Time 2, 20 youth in the control group (15.3%) and 12 treatment youth (10.3%) reported juvenile justice system involvement.
- At Time 3 (12 months post-intervention), a greater number of control youth (22, 17.7%) reported they had been involved in corrections or juvenile justice in the past year, as compared to treatment youth (9, or 8.3%), and this difference was statistically significant ($\chi^2=4.525$, $p=.018$).
- At Time 4 (24 months post-intervention), there were no statistically significant group differences on the original juvenile justice system indicator, although the rate did differ: this was reported for 16.9% of control group youth and 9.6% of treatment youth.



As seen in the figure above, there are non-significant differences at baseline between the intervention groups for the non-specific indicator of juvenile justice system involvement, and these contribute to the group difference at Time 3. However, the there is a clear difference in trajectory between the two groups from post-intervention (Time 2) to one-year follow-up (Time 3), resulting in a statistically significant difference that does not reach significance at Time 4.

We suspect that the wording of the item was confusing at T4, as the participants were 20.4 years old on average and the term “juvenile justice” would no longer apply. Further, there were fewer participants in the T4 sample, which may have made any difference too small to detect, although we confirmed no differences in missingness by group over time. Lastly, the prevalence of the indicator was relatively low compared to other transition outcomes (e.g., homelessness).

New Measures of Time 4 Criminal Justice Outcomes

We added a number of more specific criminal justice-related measures at Time 4, including:

- Indicators of arrests and convictions by type and severity in the past 12 months
- Any days spent incarcerated in a local jail or in a state prison in the past 12 months, or days spent on parole or on probation in the past 12 months.
- Two validated self-report delinquency scales (Elliott, Huizinga, & Menard, 1989; Piquero, Macintosh, Hickman, 2002), included in Appendix B.

We examine these variables below, as moderated by gender, disability, and pre-intervention juvenile delinquency. Baseline delinquency includes endorsement of the baseline indicator for trouble with the law (reported in the previous section) and/or self-report or running away more than once, and/or for more than a week, in the year prior to intervention (22.5% in the T4 sample had reported baseline delinquency).

Past-year arrests and convictions

Overall, the incidence of arrests and convictions were relatively low and there were no significant differences in arrests or convictions by intervention group (Table 6):

Table 6. *Arrest and conviction counts (N=157)*

	Arrested but not convicted	Misdemeanor conviction	Felony conviction
<i>Property crime (theft, etc.)</i>	1	2	0
<i>Drug-related crime</i>	2	0	0
<i>Assault</i>	0	3	0
<i>Robbery</i>	0	1	1
<i>Sexual offense</i>	0	1	0
<i>Other (description*)</i>	3	1	0
Total participants	6 (3.8% of sample)	7 (4.5%)	1 (0.6%)

* *DUI, interfering with a police officer, no description provided, gun charge*

Overall, there is a consistent pattern of fewer arrests and convictions in the treatment versus control group, but the group differences are not statistically significant, likely due to the low incidence rates overall. For example:

- The control group has more arrests on average, with or without a conviction ($m=.12$, $SD=.40$), compared to the treatment group ($m=.07$, $SD=.30$), and more control group youth have any arrests or convictions of any type (9.8% versus 5.4%).
- The control group has more misdemeanor convictions ($C=6.0%$; $Tx=2.7%$), and felony convictions ($C=1.2%$; $Tx=0%$), or any convictions of either type ($C=7.3%$; $Tx=2.7%$). (Note that no participants in either group reported more than one conviction.)

- Summing the six criminal charge categories in Table 6 (e.g., property crime, drug-related) by response weight (no arrest [0], arrest only [1], misdemeanor conviction [2], or felony conviction [3]) provides a range of 0-18 for potential charge severity across these types. Comparing the group means, the control group is higher ($m=.21$, $SD=.68$) than the treatment group ($m=.10$, $SD=.41$), but the difference is not statistically significant. Weighing these more heavily to capture cumulative encounters with police and the court (no arrest [0], arrest only [1], arrest plus misdemeanor conviction [3], or arrest plus felony conviction [4]) provides a range of 0-24 for charge severity. Here, the distance between the treatment group means expands somewhat, but the difference is still not significant ($C=.28$ [$SD=.93$]; $Tx=.13$ [$SD=.60$]).

We also analyzed differences between the treatment groups on these arrest and conviction indicators by gender, special education status (SPED, indicating any disability, including behavioral and emotional disorders), or developmental disability (DD) specifically (indicating potential restriction of daily activities), and by baseline delinquency, with no statistically significant findings on these moderators.

Past-year days incarcerated or supervised

As with arrests and convictions, self-reports of time spent incarcerated or supervised by the court were somewhat limited in the sample, as shown in Table 7. There is not a statistically significant difference between treatment group means for overall days, including total days incarcerated (in jail or prison) plus days supervised by the court (specifically probation, as there were no reported days on parole).

Table 7. *Non-zero responses for days incarcerated or supervised (N=157)*

CJI Outcome	Control (n=82)	Treatment (n=75)
<i>Days spent on probation</i>	30, 275, 365	365
<i>Days spent in local jail</i>	1, 1, 1, 90, 116, 215, 245	No non-zero responses
<i>Days spent in state prison</i>	120	365
<i>Days spent on parole</i>	<i>No non-zero responses</i>	<i>No non-zero responses</i>
Total days	1459 (M=18.66, SD=79.03)	730 (M=9.86, SD=59.59)
Participants with any days	n = 8 (9.6%)	n = 2 (2.7%)

There is however a trend-level statistical difference by intervention group on whether participants had spent **any days either supervised or incarcerated**. On this measure, 9.6% of the control group participants had any days incarcerated and/or supervised, versus 2.7% of the treatment group ($\chi^2=3.156$, $p=.071$).

- Narrowing this down by gender, the treatment group difference is for males specifically, with 17.1% of the control group versus 3.3% percent of the treatment group having any days incarcerated or supervised ($\chi^2=3.271$, $p=.072$).
- Next, this was also moderated by developmental disability (DD) status, but not by special education status (SPED) overall, which is a proxy for identified disability. Here, the treatment group difference was specifically associated with non-DD young people, where 12.9% of the control group participants versus 1.8% of the treatment group had any days ($\chi^2=5.044$, $p=.025$).
- Lastly, the treatment group difference was moderated by baseline delinquency, specifically those who did not report pre-intervention juvenile justice involvement or running away. Among those who had no prior delinquency, 8.5% in the control group had any days incarcerated or supervised, compared to 0% for the treatment group ($\chi^2=5.308$, $p=.027$).

There was also a statistical trend for the **range of punitive system involvement** (0-4, counting parole, probation, jail, and prison), with a higher control group mean (.12 types on average, $SD=.43$) compared to the treatment group (.03 types, $SD=.16$) ($F=3.227$, $p=.074$). This difference is specifically associated with males, (.25 types in the control group [$SD=.59$] versus .03 types in treatment [$SD=.18$]; $F=6.185$, $p=.007$), but not for females (.02 types in both treatment groups).

Narrowing this down to probation, there were no significant mean differences between the groups on total days, where control group youth spend an average of 8.27 days on probation ($SD=50.22$) versus 4.93 ($SD=42.43$) for the treatment group. There were also no significant differences on whether participants had any probation days overall ($C=3.7\%$, $Tx=1.4\%$).

Narrowing this down to incarceration, however, there is a statistically significant difference ($\chi^2=3.983$, $p=.047$), with 8.4% of young people in the control group ($n=7$) having been **incarcerated in jail or prison in the past year**, compared to 1.4% ($n=1$) in the treatment group, all of whom were males. (Note that each group had one participant who had been in prison). These group differences were not statistically significant on total days incarcerated, with 9.51 days on average for the control group versus 4.93 for the intervention group.

- This statistical finding holds for jail specifically, with the control group spending 8.06 days in jail on average, compared to none for the treatment group ($F=3.218$, $p=.038$). Further, there is a significant difference in whether youth spent any days in jail, with 8.4% for control and zero for treatment ($\chi^2=5.682$, $p=.017$). Note that moderation findings above for DD and prior delinquency on having any days incarcerated or supervised specifically reflect differences in days in jail.
- However, the group difference for days in prison was not statistically significant and went in the opposite direction, with the control group at 1.45 days ($SD=13.17$) and the treatment group at 4.93 days ($SD=42.43$). There was also no group difference on having any days in prison, as this was true for one person in both groups (about 1% in each).

Adult Criminal Justice Involvement (CJI)

We created a new multi-dimensional dichotomous variable for comprehensive criminal justice involvement (CJI) in young adulthood to address the phrasing of the original *My Life* indicator as being juvenile justice-specific, and to increase the prevalence of the outcome for analysis. In addition, this composite measure addressed some data discrepancies by combining the indicators of justice system involvement. For example, a participant could report having no “trouble with the law” at Time 4 but on a later question report an arrest or say they were on probation for a period of time.

The new composite CJI variable reflects whether or not a participant had been involved in the adult criminal justice system in any way during the prior year, as indicated by any of the following dichotomous measures:

- Past-year “trouble with the law or juvenile justice” (the original *My Life* indicator)
- And/or any self-reported arrests or convictions for a range of crimes (shown in Table 6)
- And/or any self-reported days incarcerated or on probation (shown in Table 7)

In addition to being interested in overall treatment group differences on the CJI outcome, we expected participant risk to moderate intervention effects. First, we expected there to be differences by gender, with higher CJI prevalence rates for males. This is consistent with the literature and our earlier findings for incarceration.

Next, we considered moderation by disability, as young people who receive special education services (SPED) are well-represented in the combined *My Life* sample (recalling that one of the original RCTs had special education as an eligibility criterion). SPED status included a range of identified disabilities (emotional, behavioral, physical, etc.) that could be associated with CJI. We also narrowed this down to developmental disability specifically, because we suspect that CJI could be related to placement restrictiveness (in terms of having consistent caregiver supervision, which could prevent CJI), which may be most common in cases of developmental disability (versus SPED status, which includes a range of disability types, which may or may not involve restrictive placements).

We analyzed CJI differences by intervention group overall, and by intervention within gender, SPED and DD status, and the pre-intervention delinquency indicator, as shown in Table 8 below.

Overall, 15% of the Time 4 sample reported CJI ($n=24$), with a small, trend-level difference indicating less criminal justice involvement by the intervention group (10.7% versus 19.3% for the control group; $\chi^2=2.267$, **Fisher’s exact 1-sided $p=.099$** , Cramers-V=.120 with $df=1$).

- These differences were attenuated by gender, with a statistically significant medium-sized effect by intervention group for males (29.3% control vs. 6.6% treatment, $\chi^2=5.867$ **Fisher’s exact 1-sided $p=.014$** , Cramers-V=.285) but not for females (10% vs. 14%).
- There were no statistically significant treatment group differences by special education status prior to intervention. Among participants who were not in special education (Non-SPED) prior to intervention, CJI was 23% for control versus 9% for treatment, and among those who were in SPED, it was 18% versus 12%.

- Treatment group differences by developmental disability (DD) were statistically significant. Among those who had not received DD services prior to intervention, 24% of the control group reported CJI compared to 11% in the intervention group ($\chi^2=3.493$, **Fisher's exact 1-sided p=.050**, Cramers-V=.173). Within the DD group, these differences were not observed (18% in the control group compared to 12% in the treatment group).
- Lastly, analysis of treatment group differences by whether participants indicated baseline delinquency, in terms of prior-year legal trouble or juvenile justice, and/or self-reported runaway episodes (more than once or for at least a week), seem to reflect a potential protective treatment effect for those who had no previous delinquency, although the difference is not statistically significant.

Table 8. *Moderation of intervention effects on CJI*

CJI Prevalence at Time 4	Control (n=82)	Treatment (n=72)	χ^2	2-sided p-value	Fishers Exact 1-sided	Cramer's V
Overall CJI (n=23, 15.2%)	19.3%	10.7%	2.267	0.183	0.099	0.120
Males (n=14, 19.4%)	29.3%	6.5%	5.867	0.018	0.014	.285
Females (n=9, 11.6%)	9.52%	13.6%	0.354	0.739	0.400	.064
SPED (n=14, 15.1%)	22.6%	9.1%	0.594	0.564	0.318	.080
Non-SPED (n=10, 15.6%)	22.60%	9.10%	2.206	0.178	0.127	.186
DD (n=3, 7.3%)	4.8%	10.0%	0.414	0.606	0.481	.101
Non-DD (n=21, 17.9%)	24.2%	10.9%	3.493	0.090	0.050	.173
Baseline delinquency (n=9, 25%)	26.1%	23.1%	0.040	1.000	.586	.132
No baseline delinq. (n=15, 12.5%)	16.9%	8.2%	2.101	.175	.120	.033

Delinquency Scale and Community Violence Scale

Analysis of variance was used to test group differences on the self-report delinquency scales (Elliott, Huizinga, & Menard, 1989; Piquero, Macintosh, & Hickman, 2002). The first, a 15-item scale measuring frequency of past-year involvement in a range of delinquent activities (e.g., *How many times in the last year did you deliberately damage property? Sell marijuana or other drugs? Use a weapon in a fight?*), demonstrated acceptable reliability in the Time 4 sample ($\alpha=.70$). The second scale measures frequency of community violence exposure (as either a victim or a perpetrator) and demonstrated marginal reliability in the sample (8 items, $\alpha=.64$).

The sample means on the two scales were relatively low, and there were no statistically significant differences on the delinquency scale (range = 0-3, $m=.0686$, $SD=.153$) or the community violence scale (range=0-3, $m=.0857$, $SD=.176$) by intervention group, or by gender, SPED status, DD status, or prior delinquency as moderators.

Although self-reported delinquent behavior was not associated with intervention group, we wanted to confirm that self-report of delinquent behavior was correlated with our new CJI measure—in other words, were participants getting in trouble because of this behavior? Not surprisingly, there was a significant difference between those with and without reported CJI on delinquency at Time 4, where the mean score for the 15-item scale (item response range=0-3) was .716 ($SD=1.85$) for the non-CJI group and 2.87 ($SD=3.47$) for the CJI group (**$F=19.957$, $p=.000$**).

For the community violence scale (where the respondent answers question about observing, being the victim of, or perpetrating various kinds of violence [e.g., shooting, stabbing], this difference holds, where the participants who were experiencing criminal justice consequences had more exposure ($m=1.78$, $SD=1.93$) compared to those that were not ($m=.500$, $SD=1.21$)(**$F=18.175$, $p=.000$**). There were no statistically significant group differences on the scales by gender, SPED, DD, or baseline delinquency, and none of these variables revealed a treatment group difference when analyzed.

Therefore, although the delinquency scale was not statistically associated with the intervention group at the extended follow-up, the scale was associated with actual contemporaneous criminal justice system consequences. Further, there are concerns about respondent sensitivity around the delinquency scale questions for those that had engaged in these behaviors (i.e., fear of disclosing criminal activity), as well as the potential for marginalized participant groups like foster youth to feel stigmatized by being asked these questions when they don't personally engage in these delinquent behaviors (which the vast majority of our foster care sample did not). Given these findings associating self-report delinquency with disclosure of CJI in terms of being arrested, charged, supervised, or detained, our analysis suggests that it can be preferable to simply ask populations who are considered at risk for CJI about actual justice system consequences, including multi-dimensional prompts to indicate different kinds of involvement (arrests, charges, days incarcerated, etc.).

Summary of CJI findings

There were a number of findings addressing the first research question for this study:

RQ¹ Does the *My Life* mentoring program for youth in foster care reduce the probability of criminal offending following intervention and into early adulthood?

Overall, CJI for study participants was 15% in early adulthood, but nearly twice as many foster youth in the control group (19% vs. 11%) reported CJI compared to youth randomized to receive the *My Life* intervention 2-3 years prior. The intervention was shown to be specifically effective in reducing CJI among males, which may be related to the prevalence of the outcome, which was almost twice as common for males (19.4%) versus females (10.5%). Similarly,

intervention group differences were associated with DD status, and specifically for youth who do not experience DD. Again this is likely related to the higher prevalence of the outcome among youth who were not receiving DD services at baseline (24.2%) versus those that were (10.9%); in this case, the difference is also potentially explained by more restrictive placement settings for many DD youth, which may affect the intervention's impact. On the other hand, we do not see a difference in treatment effect by special education (SPED), which is a proxy for an identified disability (whether physical, emotional, intellectual, etc.). Based on our findings, there is no prevailing association between disability and treatment effect, but the expected impact of the *My Life* may not include criminal justice outcomes for young people experiencing developmental disability, and more specifically, young people receiving public developmental disability services in addition to special education and foster care services.

The arrest and conviction data did not produce any statistically significant findings, although the consistent pattern was for there to be lower prevalence of these outcomes in the treatment group. There were significant findings, however, related to past-year incarceration and supervision. There was an overall trend for the treatment group to be less likely to experience any days incarcerated or on probation or parole, and this finding was significant for incarceration specifically, and there were group differences favoring the treatment group on the range of involvement, in terms of past-year days in jail, prison, or on probation and/or parole. These outcomes will be considered further in the cost analysis later in this report.

Regarding the incarceration or supervision outcome, we again see moderation by gender, where a treatment effect was much more present for males compared to females, and this may largely be due to the lack of females with any days incarcerated. We also see intervention effectiveness with non-DD youth specifically, which again is likely related to both restrictiveness of placement and an associated lower prevalence of delinquency. Lastly, we see moderation of intervention effectiveness by baseline delinquency, as measured by self-report of non-specific trouble with the law and/or juvenile justice, as well as self-report of running away (specifically more than once or for one week or more). In this case, the intervention may be more effective in preventing delinquency among young people as they approach the transition from foster care, particularly if they have not yet had any justice system involvement.

Overall, the intervention does not seem to be associated with the delinquency or community violence scales, although delinquency was associated with self-report of contemporaneous CJJ in terms of actual consequences like arrest and incarceration. However, this lack of findings for the delinquency scales may be due to the somewhat low scale reliability in this sample.

Importantly, we do see intervention group differences on the primary criminal justice outcomes, particularly considering that the *My Life* model does not specifically address delinquency. Rather, it is focused on increasing the understanding and application of self-determination skills as young people in foster care approach increasing independence. In the next section, we will briefly review the proximal outcomes that reflect skill-building as a mechanism for change, as well as some important foster care-related moderators, before returning to an explication of the intervention model's program components and overall costs.

Proximal Intervention Outcomes

Group by Time Effects

Combining the two *My Life* RCTs and extending follow-up assessment allows us to examine mechanisms that are expected to influence transition outcomes like CJI. This section presents selected findings for the combined study at Times 1 through 4. Table 9 shows the means for the control (C) versus treatment (Tx) groups on three measures of intervention effectiveness in terms of self-determination skill development and self-efficacy in applying new skills. The following describes any statistically significant differences in the treatment groups over time.

Table 9. Proximal My Life Outcomes over four time points

	Time 1 (N=293)		Time 2 (N=248)		Time 3 (N=231)		Time 4 (N=172)	
	C	Tx	C	Tx	C	TX	C	Tx
Arc Self-Determination Scale	104.06	102.32	106.13	108.39	107.27	109.46	102.20	104.25
Career Decision Self-Efficacy	3.87	3.76	4.00	4.01	4.00	4.07	4.05	4.10
My Life Activity Checklist	15.49	14.79	19.75	21.03	20.26	20.65	21.27	22.49

Arc Self-Determination Scale (ARC). While the overall group by time effect was not quite statistically significant ($p=0.105$, two-tailed), the treatment groups did significantly diverge between Times 1 and 2 ($p=.030$) and between T1 and T3 ($p=.025$), with a small effect size ($<.30$).

Career Decision Self-Efficacy (CDSE) Scale. There were not significant effects on the group by time test overall, but the contrast between Times 1 and 3 was significant ($p=.03$), as was the contrast comparing treatment to control between T1 and the average of T2 and T3 ($p=.04$).

Life Activity Checklist (LAC). There were significant group differences by time for the LAC overall ($p=.020$, two-tailed), where the treatment group increases more over time compared to control, especially between T1 and T2 ($p=.026$), with a trend-level effect from T1-T3 ($p=.095$).

Summary of Findings on Proximal Outcomes. Overall, the group by time differences show a consistent pattern of hypothesized effects on proximal outcomes related to self-determination and self-efficacy, which are the focus of the *My Life* model. The clearest patterns also show a comprehensive effect, with treatment group gains across a range of subdomains (career, education, etc.), as measured by the Life Activity Checklist and the CDSE. The clearest gains are for applied self-determination skills measured by the ARC. However, we expect these measures to be attenuated by risk factors associated with being in foster care, as described in the next section of analysis of moderators of intervention effectiveness.

Moderation by Risk. To understand moderation of intervention effectiveness on proximal outcomes, we analyzed placement stability, restrictions on youth opportunities to practice self-determination skills, and baseline report of trauma experiences (in addition to age and gender). These predictors were included in the repeated measures analysis of intervention effect over time, with additional contrasts added for three levels of each predictor. Participants who are within one standard deviation from the mean are in the average or moderate level, and those scores that are lower or higher than the middle group are considered at the lower or higher level on the variable. Analysis then tests group by time differences on the outcomes within these three moderator groups to examine variation between the levels.

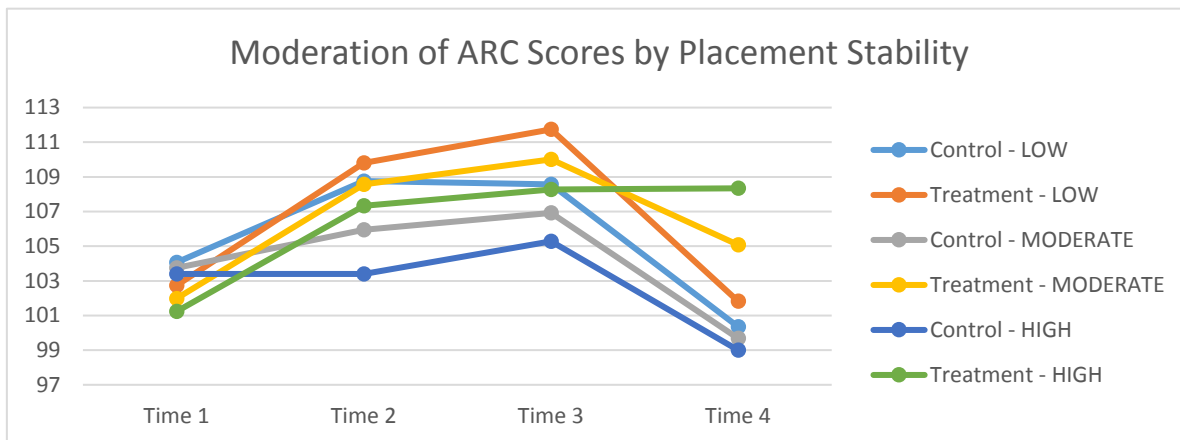
As described below, the moderators had consistent association with treatment group differences on the proximal skill-building outcomes. There were no moderation findings for the original T1-T4 juvenile justice indicator of trouble with the law or the well-being measures.

Traumatic Stress. Traumatic stress symptoms were measured by the CROPS. The mean baseline CROPS score was 16.24 (SD=8.71), with a median of 15.0, and 37% of the participants were above the 19-point clinical interest cutoff. Broadly, the greatest response to treatment was found for participants who reported low-to-moderate stress levels prior to participation:

Placement Stability. Mean baseline placement stability was 511.52 days per placement (SD=616.31). Overall, the intervention seemed to be more effective for young people who have high (about 1000 days) or average stability.

Placement Restrictiveness. The baseline mean for placement restrictiveness is 5.05 (SD=2.13) on a 0-12 point scale. Overall, moderation by restrictiveness revealed that a favorable response to treatment is specifically seen among youth with low or average placement restriction at baseline. However, even highly-restricted youth show trend-level improvement on CDSE when compared to highly restricted youth in the control group.

Summary of Moderation Findings. Our preliminary findings partly answer the second research question for this study. Overall, compared to the control group, youth in the treatment group who entered the study having experienced average-to-high foster placement stability, and who experienced low-to- average placement restriction, and low-to-average traumatic stress levels were most likely to show significant improvement on hypothesized outcomes. The figure below illustrates the moderation effect of placement stability on ARC scores.



This brief overview of the proximal outcome and moderation findings reflects initial analysis of continuous moderators that will be used to evaluate criminal justice outcomes more thoroughly in the future to address our second research question. We also expect to explore moderation by well-being outcomes measured at all four time points (e.g., social support). Additional analysis examines moderation by intervention components as discussed below.

Analysis of Intervention Components

Intervention Fidelity Monitoring

As described in the first section of this report, the *My Life* model includes one-on-one weekly mentoring of participants by their “coach” around the understanding and application of self-determination skills over the course of a full year. Coaches assist youth in identifying goals that are meaningful to them throughout the year, and coaching involves working with youth on those goals, but also assisting the youth to use the skills they are working on to take a leadership role in their transition planning process as they approach the exit from foster care. Additionally, youth attend quarterly workshops co-led by near-peer young adult mentors who were formerly in foster care and can speak to having had successful transition experiences.

The intervention components were measured in various ways using the fidelity of implementation (FOI) checklist (see Appendix B). Table 10 shows the means for all youth in the intervention group, and well as subgroup means for the “completers” who met minimum fidelity requirements, in terms of coaching hours and skill development, and those who passively or actively chose to withdraw from the study.

Table 10. *Implementation of intervention components*

	All (n=141)	Completed (n=111)	Withdrew/Attrited (n=30)
In-person coaching hours	50.00 (SD=26.44)	59.04	16.52
In-person coaching meetings (#)	32.39 (SD=14.06)	37.77	12.50
Workshops attended	3.21	3.78	1.07
Focus of coaching time			
<i>Experiential %</i>	31.56	32.12	24.16
<i>Didactic %</i>	36.54	36.00	43.68
<i>Relationship-building %</i>	30.13	30.22	29.02
Skills delivered*			
<i>Achievement (17 skills)</i>	53.77 (47.26%)	61.83 (46.60%)	25.77 (54.05%)
<i>Partnership (14 skills)</i>	32.70 (28.74%)	38.86 (29.26%)	10.74 (23.15%)
<i>Self-Regulation (7 skills)</i>	27.31 (24.00%)	32.00 (24.14%)	10.87 (22.80%)
Coach progress ratings (1-6)			
<i>Youth Engagement</i>	4.53	4.59	3.56
<i>Skill Acquisition</i>	3.89	3.95	2.88
<i>Working on Goals</i>	4.08	4.16	2.91
<i>Coach’s Ability to Support Youth</i>	4.61	4.65	3.89

* Skills are recorded as completed when the participant demonstrates understanding and/or application of the skill (e.g., Choosing goals, Managing frustration)

Intervention Fidelity Moderators

This section addresses two research questions related to intervention components:

RQ³	To what extent are particular components in the <i>My Life</i> model responsible for effects observed on participant outcomes?
RQ⁴	To what extent are particular mentor practices in the <i>My Life</i> model responsible for effects observed on participant outcomes?

Variables were created for primary components and run for the Arc Self-Determination Scale (Arc) and the Life Activity Checklist (LAC), which are the primary indicators of self-determination skill development. The following were run as moderators, using the same analysis described above for the risk moderators (i.e., using the predictor mean to create levels, and then analyzing group by time differences at each moderator level):

- Coaching mode: total *Experiential*, *Didactic*, and *Relationship-building* minutes
- Skill-building focus: total *Achievement*, *Partnership*, and *Self-regulation* minutes
- Total coaching hours (40-hour and 50-hour thresholds)

No moderation of the ARC or then LAC was found for two coaching thresholds (40 or 50 direct coaching hours over the intervention year). Other variables reflecting whether coaching activities were primarily didactic (discussing skills, planning activities), experiential (active participation in a skill-building activity), or relational (getting to know each other or catching up). Exploratory analysis of these coaching moderators identified the following statistically significant findings, controlling for age, sex, and baseline scores on the respective measures:

- *Experiential minutes* predict Arc scores at T2 and T3 scores and Life Activity Checklist Scores at T2, controlling for traumatic stress and placement restrictiveness. *Didactic minutes* have a trend-level association with the Arc scores at T2 only.
- *Experiential minutes* and *placement restrictiveness* are negatively correlated, and *didactic minutes* and *placement restrictiveness* are positively correlated.

Overall, these limited findings did not demonstrate our hypothesis that model components or mentor practices would moderate or mediate our proximal outcomes, which limits analysis of these with higher-level transition outcomes such as criminal justice involvement. Our sense of these findings, especially in light of the prevalence of findings when testing the risk-related moderators, is that foster care-related risk factors have a stronger influence on both the delivery of the intervention and the outcomes. For example, our prior work has shown that although special education or developmental disability status can distinguish some high-level transition outcomes (as with CJI here), foster care factors like placement restrictiveness, stability, and trauma supersede individual risk factors in moderating intervention delivery and measured outcomes.

Therefore, when conducting additional analysis of moderation on the criminal justice outcomes, we will focus more on understanding, (1) the influence of the foster care moderators, and (2) proximal outcomes of self-determination skill development as mediators.

Cost Analysis

This section addresses the final two research questions for the study:

RQ⁵	How cost-effective is the <i>My Life</i> intervention, with respect to the program costs associated with any program effects on delinquency outcomes in early adulthood?
RQ⁶	Are <i>My Life</i> intervention costs exceeded by the benefits (cost savings in public expenditures) attributable to program effects on delinquency outcomes in early adulthood?

To address the cost-related research questions, we are using the Vera Institute of Justice guidelines for conducting justice system cost analysis, specifically for using estimated short-term marginal costs, which is the change in cost when a unit of output changes (e.g., one youth served) (Henrichson & Galgano, 2013). On the other hand, long-term marginal costs also include step-fixed costs, which are costs that change at a certain threshold of change in output (e.g., supervision costs). We will primarily use short-term marginal costs in our analysis, but will include long-term costs for the purpose of sensitivity analysis.

Estimated Intervention Costs

First, we use the average direct hours of intervention and the associated staffing costs to estimate the intervention cost per youth. Between 2011 and 2014, coaching was delivered to 144 intervention group participants by 25 research team staff members with graduate degrees and by MSW students in practicum placements with the research project. Full-time staff members had between 8-10 youth on their caseload, and MSW students had 2-3, depending on individual experience and capacity. All coaches attended a 32-hour training as well as weekly staff meetings led by the principal investigators to discuss application of the model in general and for specific cases. Additionally, all coaches had one-on-one supervision with a model-certified research team staff member every two weeks.

In Table 11 below, we estimate the short-term marginal costs for the intervention, in terms of delivering the model to one additional youth in the context of an established program setting. The marginal per-youth cost is based on the average coaching hours for the 144 youth served (as detailed in Table 10 above), which includes the time youth spent at quarterly workshops. We also include indirect service costs associated with each documented and youth-specific contact (email, phone call, in-person meeting) to foster parents, caseworkers, or other service providers, and we estimate these as 15 minutes per contact on average. Next we factor in an additional 25% of indirect per-youth costs for activities such as paperwork (filling out the fidelity form, for example, or preparing for a youth meeting). Lastly, the model is community-based in terms of meeting with youth wherever they are, and we delivered the program in a tri-county region encompassing urban, suburban, and rural areas; therefore, to account for youth-specific travel time, we estimated one hour of coach travel time per in-person youth meeting (m=32.29) to include the range of driving distance across the counties.

Table 11. *Estimating marginal costs per My Life youth*

Components of Marginal Intervention Costs	Mean
Direct in-person hours	50.00
Other direct service contact time (with caseworker, providers, etc.)*	5.17
Other indirect service time (paperwork, supervision, etc.)**	13.79
Travel time†	32.39
Mean intervention hours per youth	101.35
Coach cash expenditures (snacks, event tickets, etc.) ††	\$88
Other per-youth supplies and materials (e.g., youth binder, workshop snacks)	\$32

* Counting documented contacts to foster parents, caseworker, and providers (m=20.69) as 15 minutes each.

** 25% of direct service time (in-person youth hours plus youth-specific contacts to providers) for indirect activities.

† Coaches meet youth at school, home, or in the community. We count one travel hour per documented in-person meeting (m=32.39).

†† This is based on the average amount spent by coaches in this study (m=87.65). We do not include reimbursed staff expenditures for transportation/mileage, as these are not necessarily generalizable to different regions.

The above estimated hours can then be used to calculate a short-term marginal per-youth cost, where the long-term marginal cost estimate also includes step-fixed costs, which are fixed for a certain number of outputs, but change at a given threshold (Henrichson & Galgano, 2013). For example, full-time staff can coach between 8-10 youth, or a staff member could coach 4 youth and spend half-time planning and facilitating the quarterly mentoring workshops for youth (including supporting a group of co-facilitating near-peers with lived experience), and/or multiple graduate-school interns can coach youth and/or assist with workshops. Regardless of staffing structure, all coaches need group and individual supervision from someone certified in the intervention, and a half-time person to facilitate the delivery of the workshops. Table 12 shows estimated step-fixed costs for a *My Life* program serving 50 youth a year, which can be used to extrapolate per-youth costs for the cost-benefit analysis.

Table 12. *Estimated step-fixed costs per 50 My Life youth*

Step-fixed Intervention Costs	
Graduate-level staff @ \$50,000/year plus 25% fringe benefit rate (coaching 8-10)	\$62,000
Graduate school interns (coaching 2-3)	--
Graduate-level supervisor @ \$60,000/year plus 25% fringe benefit rate	\$75,000
<i>Example staffing structure:</i>	
4 full-time staff (coaching 36 youth)	\$248,000
1 full-time staff (coaching 4 youth and facilitating workshops)	\$62,000
Three graduate students (coaching 8 youth total)	--
1 full-time program supervisor	\$75,000
<i>My Life Model</i> start-up training and certification	\$10,000
Staffing costs for 50 youth	\$395,000

In Table 12 above, we use prevailing staff and supervisor salary and benefit rates for community agencies in our area; readers who wish to adjust these for their area can recalculate the estimates with higher or lower salary or fringe rates. Next, we include an estimate of start-up training and certification costs for the *My Life* model; coaches must have 32-hours of group training with a certified *My Life* trainer, and then in-person or remote supervision by someone certified in the model; the start-up cost for training and certification for the staffing structure described would be approximately \$10k for a program newly serving 50 youth per year with newly trained staff, if the supervisor was not certified in the model. Costs would be closer to \$5000 for an ongoing program with annual training of new coaches and an in-house supervisor certified in the model, and eventually even less with a certified in-house trainer and supervisor.

Using these estimated marginal costs and the example program staffing structure—which accurately reflects the coach staffing for the intervention as implemented—we can estimate the short-term marginal cost for the intervention, as well as long-term marginal costs (which are marginal plus step-fix costs), as shown in Table 13.

Table 13. *Estimated My Life intervention costs per youth*

Intervention costs per youth	Estimate
Staffing (101 hours at \$30/hour for full-time coach at \$62k/year salary/fringe)	\$3030
Per-youth coaching/workshop expenditures and supplies	\$120
Estimated short-term marginal cost per youth	\$3150
<i>With example staffing structure for 50 youth:</i>	
Staffing costs	\$395,000
Supplies and cash expenditures	\$6000
Estimated long-term marginal cost per youth	\$8020

Note that we do not use actual fringe benefit rates or facilities and overhead rates for our research setting, as these are not generalizable to non-university settings. However, we could apply a commonly used estimate of 25% facilities and overhead cost for community-based programs to our cost estimate for 50 youth, which would result in a per-youth estimate of \$10,025, but such fixed costs were not included in the marginal estimates we have for criminal justice involvement, which are detailed below.

Analyzing Cost-Effectiveness for Criminal Justice Outcomes

As described in the earlier section reporting the intervention impact on the CJ outcomes, there were consistent but non-significant trends showing lower rates of arrests and convictions in the treatment group. There were significant findings, however, related to past-year incarceration and probation: there was an overall trend for the treatment group to be less likely to experience any days incarcerated or on probation, and this finding was significant for days in jail specifically, and there also were significant group differences favoring the treatment group on the range of involvement, in terms of past-year days in jail, in prison, or on probation, and/or parole. Additionally, there was a trend-level finding for CJ and a significant finding for intervention group differences on CJ among males specifically.

We can now calculate cost-effectiveness ratios using the estimated short-term marginal costs (\$3150 per youth) and the CJJ outcomes, distinguishing between CJJ outcomes for which we have statistically significant differences between groups. Cost-effectiveness indicates how much it costs to achieve a particular outcome of interest (e.g. reduced arrests), using one intervention compared to another. In this case, we don't have a comparable cost for the control group (community as usual services) to compare to *My Life*, so we are using a zero value for CAU.

For example, there were statistically significant group differences on whether participants had spent any time in jail. The cost effectiveness equation for that outcome based on a rate for 100 youth participants would be:

$$\frac{\text{(Intervention cost – CAU cost)}}{\text{(Treatment – Control outcomes)}} = \frac{\text{(\$3150 x 100 – \$0)}}{\text{(9 – 0)}} = \text{\$35000 per avoided detention}$$

The following table shows the cost-effectiveness ratio for the CJJ outcomes, per 100 youth.

Table 14. *Cost-effectiveness ratios*

Criminal Justice Indicator	Rate per 100 youth		Cost-effectiveness ratio
	Control	My Life	
Total arrests	12	7	\$63,000 per avoided arrest
Misdemeanor convictions	6	3	\$105,000 per avoided misdemeanor conviction
Any days in jail	9	0	\$35,000 per avoided detention
Average days in jail	8.16	0	\$38,602 per average day in jail
Total days in jail	816	0	\$386 per day avoided
Days on probation	827	487	\$927 per day avoided
Past-year CJJ	20	9	\$28,636 per CJJ avoided
CJJ – MALES	31	6	\$12,600 per CJJ avoided

Analyzing Cost-Benefit for Criminal Justice Outcomes

Cost-benefit ratios compare program costs with outcomes that can be monetized in a relevant way, such as days incarcerated or supervised by the criminal justice system. To calculate cost-benefit ratios, we compare the short- and long-term marginal costs of the *My Life* intervention with the expenditure per participant for a particular service based on prevailing averages for that type of service (e.g., average incarceration cost per day). For example, the average cost per year incarceration on Oregon was \$37,784 in 2015 (National Institute of Corrections, 2017), or \$104 per day, which is somewhat higher than the national average of \$88 per day (NIC, 2017). Other marginal cost numbers were calculated for Oregon in 2011 (Wilson, 2011) and have been adjusted for inflation using the consumer price index rates for November 2017.

Note that we have included estimates for the various criminal justice costs below, but of these, only days in jail demonstrated a significant intervention group difference in this analysis, and seems to have driven the trend-level findings that grouped different types of CJJ (i.e., past-year CJJ included the indicator for any days in jail). We are also excluding statistically significant outcomes for which we do not have a specific cost value (e.g., any days in jail).

Table 15 shows the costs associated with CJJ outcomes for the treatment and control groups per 100 youth, with estimated costs avoided due to intervention. Table 16 shows these avoided costs as the benefit compared to intervention cost outlays.

Table 15. *Estimated costs avoided associated with intervention*

CJJ outcome	Per 100 youth		Difference	Marginal Cost	Avoided Costs (Benefit)
	Control	My Life			
Arrests	12	7	5 arrests	\$985	\$4925
Misdemeanor convictions	6	3	3 convictions	\$232	\$696
Total days in jail	816	None	816 days	\$104/day (\$37,784/year)	\$84,864
Days on probation	827	487	340 days	\$8/day (\$2920/year)	\$2720

Table 16. *Cost-benefit ratios*

CJJ outcome	Avoided Cost	Marginal Intervention Cost	Cost-benefit ratio	Interpretation
Arrests	\$4925	5 @ \$3150	$\$4925/\$15,750 = 0.31$	The cost of intervention outweighs the benefits of avoided arrest.
Misdemeanor conviction	\$696	3 @ \$3150	$\$696/\$9450 = 0.07$	The cost of intervention far outweighs the benefits of avoided convictions.
Days in jail	\$84,864	9 @ \$3150*	$\\$84,864/\\$28,350 = 2.99$	The benefit of intervention in term of avoiding days in jail far outweighs the cost.
Days on probation	\$2720	2 @ \$3150†	$\$3608/\$6300 = 0.43$	The cost of intervention outweighs the benefit of avoided probation days.

* This is 7 x 1.22 intervention outputs for the following avoided detention "events": 3 youth who had one day in jail, and 1 each who had 90, 116, 215, and 245 days in jail (see Table 8 in CJJ outcomes section). The 7 is multiplied by 1.22 to align with the per 100 avoided costs estimate

† This is two intervention outputs for one control youth who had 30 days on probation (versus none for treatment group) and one who had 365 days (in addition to one each with 365 days in each group).

The clearest cost-benefit of the *My Life* intervention on the outcomes is avoided days in jail. This was one of the most salient intervention effects and the significant difference between the intervention and control groups carries over to also demonstrate clear intervention benefits in the cost analysis. For the purpose of sensitivity analysis, we can calculate the cost-benefit ratio for this outcome using the long-term marginal cost (\$8020), which includes the set-fixed costs for start-up and supervision and is likely more comparable to the per-day jail costs. That cost-benefit ratio is 1.18 (\$84,864/\$72,180) and still demonstrates the potential cost savings of the *My Life* intervention when it helps participants avoid detention in young adulthood.

It is very important to recognize that the cost estimates presented here represent the most conservative case, with the benefits from *My Life* program likely to accrue significantly over time. The *My Life* model specifies a one-year intervention period, so all costs for serving participants are expended in one year and are entirely accounted for in our analysis. In our calculations, however, the benefits derived from the intervention are measured in only one of the years after the intervention (12-24 months post-intervention). In reality, similar savings on avoided incarceration and other justice system costs are likely to accumulate over multiple years, and the benefits of preventive intervention may compound over an individual's lifetime (Cohen, 1998; Welsh, Farrington, & Gouar, 2015). Thus, with the costs fixed, the current analysis generates a minimum benefit-cost ratio that could increase with consideration of improved outcomes and additional savings on justice system expenditures over time.

Summary of Cost Findings

Our analysis begins with an estimation of program cost, overall and per-youth, for a weekly paid mentoring program grounded in a well-articulated theory of change for increasing self-determination. Based on the documented direct service time for all *My Life* intervention group participants, we estimate about 100 youth-specific direct and indirect service hours over the course of the year for each participant; using a baseline salary of \$50,000 for a staff coach, and including other costs specified above, we estimate a short-term marginal cost of \$3150 to serve one additional *My Life* for a year within an established program. Longer-term marginal costs if starting up a new program serving 50 youth, and including expenses for training and supervision, and assuming graduate students are a staffing resource, are \$8020 per youth.

Examining cost-effectiveness for criminal justice outcomes shows that it costs \$386 for every day in jail avoided in the intervention group. Additionally, it cost \$12,600 for males in the intervention group to avoid CJJ entirely, in terms of arrest, days incarcerated or supervised, or non-specific legal trouble. These estimates were calculated using the short-term marginal cost for one additional youth served; using the longer-term marginal cost to start up a new *My Life* program, it would cost \$982 per day of jail avoided and \$32,080 per male youth to prevent CJJ. Further, we can conduct additional cost-benefit analysis for the days in jail outcome, since we can estimate that public expenditure. Using a daily incarceration cost of \$104, we estimate that the benefit of *My Life* program for preventing days in jail to be three times the program cost.

Readers can conduct additional sensitivity analysis by following the formulas in Tables 12 and 13 to adjust intervention cost for their setting (e.g., higher or lower salary rates, additional known costs). The cost-effectiveness and cost-benefit calculations in Tables 15 and 16 can also be adjusted with known public costs for a specific region.

CONCLUSION

Does the My Life mentoring program for youth in foster care reduce the probability of criminal offending following intervention and into early adulthood?

Analysis of the data in this study yielded consistent findings that the intervention and control groups had different criminal justice-related outcomes, as first seen at one year post-intervention (T3), when including the entire sample and using a general indicator of “trouble with the law.” This was one of only two statistically significant intervention group differences in the full sample on a high-level transition outcome in our analysis so far, with the other being post-secondary education enrollment at two-year follow-up.

At the two-year follow-up (T4), there was no intervention effect on this non-specific indicator, but there were a number of statistical trends and significant findings when examining additional new CJJ measures and/or when assessing differences between the *My Life* and control groups for certain subgroups. For example, there was a trend-level intervention effect on composite CJJ in the full sample. This treatment group difference was statistically significant for males as a group, and was also significant among the group of young people who were not receiving developmental disability services prior to intervention. We also see clear patterns favoring the intervention group on more specific indicators of CJJ.

While there were no group differences for number of arrests (or type or severity), there was a significant group difference for incarceration, where control group youth spent 8.16 days in jail on average (9% spent any time in jail) versus no days in jail among the *My Life* intervention participants (one person in each group spent time in prison between the one- and two-year follow-ups). There was also a significant intervention finding favoring the *My Life* group on the range of corrections involvement (counting probation, jail, prison, and parole). For these findings as well, intervention effects were largely observed among the males in the sample, as well as young people without developmental disabilities.

There were also some moderation findings suggesting the intervention effect may be more pronounced when it is preventative, in terms of reducing criminal justice outcomes among young people who had no past-year delinquency (e.g., trouble with the law, multiple runaway episodes) when they started the intervention.

On the other hand, there were no significant findings demonstrating treatment group differences on the self-report delinquency and community violence scales in this sample, although these were statistically associated with contemporaneous CJJ involvement in terms of actual criminal justice consequences like arrests and incarceration.

Do the effects of the My Life program systematically differ by the nature and level of personal and environmental risks experienced by participants?

As described above, we see moderation of the effect on criminal justice outcomes by gender and by developmental disability status, and on some measures, by whether participants already had prior justice system involvement at baseline. Importantly, the analysis of both special education service status as a proxy for any identified disability, and developmental disability status as a specific subgroup, allows us to draw inferences about the potential for

environmental risk factors (e.g., placement restrictions) to supersede the personal risk factors (e.g., emotional or behavioral disorders) on intervention delivery and impact. Here, we see a consistent pattern where young people who likely experience placement restrictions that would impede intervention activities in the community also have lower prevalence of the criminal justice outcomes of interest, minimizing intervention effects on this specific outcome domain. Additionally, initial analysis of moderation of the proximal outcomes reflecting self-determination skill development suggests that foster youth participants with low-to-average risks in terms of placement stability, unrestrictive placements, and traumatic stress levels benefit more from the intervention. Ongoing moderation analysis will test these predictors on the criminal justice outcomes reported here.

To what extent are particular components in the My Life model, or particular My Life mentor practices, responsible for effects observed on participant outcomes?

Our preliminary analysis to date does not show that specific intervention model components and practices distinguish effects on the tested proximal outcomes. Additional exploration will consider these as moderating high-level transition outcomes directly, including criminal justice involvement, although the prevalence rates for these outcomes may be too low to analyze effects within the intervention group.

How cost-effective is the My Life intervention, and do benefits exceed costs, with respect to delinquency outcomes in early adulthood?

The cost analysis found that delivering the intervention cost approximately \$386 for every avoided day in jail, and the cost for a male participant to avoid criminal justice involvement entirely was approximately \$12,600. Using a daily incarceration rate of \$104, we estimate that the benefit of *My Life* program for preventing days in jail in young adulthood is between one and three times greater than the intervention cost, depending on whether calculations are based on costs devoted specifically to each individual participant or on overall staffing and infrastructure costs. These represent conservative estimates because the program costs are fixed and the measured benefits could prove to be greater if they were to be assessed over multiple years.

DISCUSSION

Improving Foster Youth Criminal Justice Outcomes

A notable proportion of participants in the *My Life* study (15%) had some form of criminal justice involvement in early adulthood, but almost twice as many youth in the control group reported CJJ compared to those who had been randomized to receive the *My Life* mentoring intervention 2-3 years prior. Furthermore, our findings suggest that the model may reduce CJJ among groups who are at greater risk for system involvement, specifically males and those who do not experience developmental disability (implying less daily structure and supervision). Additionally, there is some evidence of a protective effect among youth who had no previous delinquency.

The analysis also found clear intervention effects favoring mentored program participants, in terms of whether youth had been in jail in the prior year, and for how many days. However, intervention group differences were not observed on all criminal justice outcomes, such as self-reported delinquency or the number of arrests (or charge type or severity). Our cost analyses based on the outcomes with statistically significant improvement suggest that providing intensive and structured mentoring by skilled coaches might be a cost-effective approach to reducing criminal justice consequences, particularly if offered to young people who are significant risk for incarceration in young adulthood. Our cost-benefit analysis shows that investment in programming like *My Life* it is an approach that is at the least cost neutral, but potentially provides a benefit of three times the expenditure, considering the number of days in jail that earlier intervention may prevent.

The results in this study are consistent with the growing base of knowledge regarding the ability of mentoring interventions to reduce delinquency, crime, and justice system involvement (Tolan et al., 2008). However, this study makes a noteworthy contribution to the mentoring literature for several reasons. First, the intervention model is well-specified and the fidelity of program delivery was closely monitored. Many, including Tolan and colleagues (2008), have lamented that the operative mechanisms in mentoring interventions are rarely described in detail, making it difficult for the field to understand or replicate successful mentoring programs. Second, the current study reports findings on indicators of criminal justice involvement, such as arrest, incarceration, and days in detention, unlike studies that rely primarily on assessment of behavioral outcomes (e.g., delinquent acts). In fact, in the current study, intervention differences were found on the CJ variables rather than the self-report behavioral measures. In addition, the current study is among the first to analyze longer-term post-intervention outcomes. The final assessment (Time 4) was completed two years after the mentoring relationships ended. Likewise, this study is among the first to demonstrate that a mentoring program delivered during adolescence can have effects on important outcomes in adulthood. Finally, this is one of the few mentoring studies to analyze the costs associated with program services and to compare them to monetized benefits resulting from the intervention.

The additional analyses of hypothesized proximal outcomes in the *My Life* intervention model suggest that the program is effective in helping young people in foster care to learn, develop, and apply self-determination skills and personal self-efficacy, which may have comprehensive effects on transition outcomes in young adulthood. For example, enhanced self-determination and self-efficacy may help young people resolve developmentally-typical brushes with the criminal justice system in late adolescence, potentially de-escalating encounters with police or the courts in ways that reduce the severity of the consequences (e.g., an arrest not leading to conviction, a misdemeanor versus a felony charge, or probation versus jail) and/or prevent recidivism. Importantly, *My Life* exposes young people to formal developmental coaching (e.g., skills for self-regulation and partnership with adult allies), but also provides opportunities for more informal exposure to near-peer mentors who may be able to speak to their own experiences successfully resolving serious problems like criminal justice involvement in ways that alleviate potential circumstances. Avoidance of entanglements with the justice system is particularly important as young people approach the age of majority, where they risk the more serious and long-term consequences of criminal justice involvement as adults.

Our preliminary findings also bear out practice knowledge in the child welfare, juvenile justice, and youth mentoring fields around individual and environmental risk, and how these moderate the effectiveness of both traditional and innovative models of intervention with young people. In addition to our findings for intervention effectiveness in reducing criminal justice involvement among males who do receive developmental disability services, our proximal outcome moderation analysis shows that the *My Life* model is more effective in developing self-determination skills with youth at low to average risk in terms of placement stability, placement restrictiveness, and traumatic stress. Combined, these analyses begin to shape future hypotheses about who might benefit from this intervention when targeting criminal justice outcomes specifically: males, who do not experience relatively high levels of placement restrictiveness, placement instability, or traumatic stress, and who do not have a history of delinquency prior to intervention. Our next task is to explore these foster care factors as moderating criminal justice related outcomes, in addition to examining whether self-determination skill development itself mediates criminal justice outcomes among particular participant groups.

Study Limitations

Several study limitations should be noted. First, although we were successful in assessing the pool of participants who enrolled in the Time 4 study, there was 16% attrition between Times 3 and 4 due to young people not being interested in continuing with assessment or not agreeing to be contacted about a follow-up study. Factors associated with self-selecting out of the additional assessment may bias the findings. An additional 36 young adults could not be located and/or scheduled for T4, and the final sample may be systematically different based on factors associated with a lack of engagement among these youth. We also are aware that we may have an over-representation of young people who were in detention at the time of T4 assessment, because we were able to locate and meet with these youth quite successfully. (Anecdotally, this project sent our assessors to visit multiple young people in adult jails and prisons across the state, all but one of whom was randomly assigned to the control group three years prior. Yet these young people remembered the *My Life* project, welcomed the visiting assessor, and spent an hour or two completing a survey packet they had filled out multiple times before, and this time without being able to accept an incentive because they were incarcerated). Similarly, we were able to locate and assess young people in more restricted placements, largely due to disability, which resulted in a number of modified assessments that could not be used in the analysis of the self-report delinquency and community violence measures (as these were completed by caregivers). Thus, although we were relatively successful in finding and assessing young people, we finished recruitment with a smaller sample than intended, and were specifically limited on some of the new criminal justice-related indicators, which means that we are underpowered to detect a small effect on some outcome measures. Diminished power may be why we do not see some statistically significant outcome findings found at Time 3 reflected at Time 4, and may also explain why there is a consistent pattern favoring the intervention group on nearly every measured criminal justice outcome, though many of these differences were not statistically significant.

IMPLICATIONS FOR POLICY, PRACTICE, AND FUTURE RESEARCH

Policy and Practice

This study informs child welfare and youth mentoring policy and practice by investigating whether a theory-based mentoring program to increase self-determination skills among foster youth has enduring effects on criminal offending in early adulthood. Importantly, the *My Life* model was designed to improve overall transition outcomes for foster youth, including those experiencing a range of disabilities, but the program did not specifically target criminal justice outcomes. There is a growing interest in the “crossover youth” population involved in both the child welfare and juvenile justice systems, and this research suggests that a structured mentoring program may be a viable approach to prevent justice involvement in early adulthood. Furthermore, the findings on moderating factors provide guidance for policy-makers and practitioners regarding the allocation of resources to derive the greatest impact from the intervention. These findings suggest that *My Life* may be more effective when made available to populations more likely to benefit from prevention efforts, such as males and young people who do not have the placement restrictions associated with experiencing a developmental disability, as these groups are more likely to have criminal justice involvement in young adulthood in the absence of intervention.

Although the *My Life* model was not designed to specifically prevent criminal justice involvement, the intervention effects reported here may demonstrate the comprehensive benefits that positive youth development approaches can have when they focus on mentoring relationships as a mechanism for psychosocial skill development and prosocial identity formation, where these can mediate higher-level outcomes of public interest like delinquency prevention in young adulthood. As a paid mentoring model, *My Life* represents an uncommon level of public investment in a youth mentoring approach for a population at relatively high risk of long-term criminal justice involvement. However, other mentoring programs that serve particularly high-risk youth with well-defined models and reliance on professional mentors as a primary investment are also generating positive outcomes (Eddy et al, 2017). The current study lends credibility to the idea that targeted mentoring programs for youth in the most challenging personal and environmental circumstances often requires a higher level of program fidelity to achieve measurable outcomes; this can be accomplished through a clear program model and additional training, supervision, and staffing infrastructure, relative to that typically seen in volunteer-based mentoring programs for less-specific youth populations.

Further, because criminal justice involvement is one of the many poor and interrelated outcomes experienced by a large subgroup of foster youth during the transition from care, and because it is an outcome with exceptional cumulative public costs when delinquency in young adulthood becomes a long-term criminal trajectory, additional investment in effective prevention may be warranted. Additionally, our analysis here shows that the *My Life* intervention can be a cost-effective preventive approach for helping young people specifically at risk of incarceration. Based on findings indicating that *My Life* participants avoid significant time in jail in young adulthood, the financial benefits of the program likely outweigh the costs, especially as these accrue over time.

Research and Dissemination

Preliminary findings addressing the effects of the *My Life* intervention on criminal justice involvement were presented at an academic conference for social work research in early 2017:

Blakeslee, J. D., Schmidt, J., & Keller, T.E. (2017, January). *Testing the long-term effectiveness of the My Life intervention for youth in foster care: Avoiding criminal justice involvement in early adulthood*. Paper presented at the Annual Conference of the Society for Social Work and Research, New Orleans, LA.

However, for reasons documented in the accompanying progress report, many of the analyses reported above have been completed only recently. We intend to submit abstracts to present our findings at two additional conferences in the coming year, and manuscripts based on these findings will be prepared for submission to academic journals in the coming months. We expect one manuscript will report on intervention effects with regard to the new composite measure of CJJ and the moderation of those effects by personal factors such as gender and disability, and a second manuscript will report on the intervention cost-effectiveness and corresponding cost-benefit analysis with regard to CJJ expenditures (e.g., days in jail). In addition to these academic publications, we will produce a brief practitioner-friendly summary of the research for wider dissemination of the findings through the field of youth mentoring. Other strategies for dissemination include discussing the findings and implications in the webinar series sponsored by MENTOR's National Mentoring Research Center.

The *My Life* model has been recently listed by the California Evidence-Based Clearinghouse for Child Welfare as a promising program with high relevance for improving foster youth outcomes (<http://www.cebc4cw.org/program/my-life/detailed>). We expect the model to soon be rated as supported by research evidence, pending dissemination of the findings from the combined study demonstrating overall effectiveness on measures of self-determination skill development and related transition outcomes (briefly reviewed in this report). For programs and policy-makers interested in learning more about and/or potentially replicating the *My Life* model, the intervention has a well-established resources supporting implementation. These include a structured theory-based curriculum, fidelity assessments, and a mentor training and certification program. Readers can also contact the director of the *My Life* model training and certification program, Shannon Turner (sturner@pdx.edu).

Lastly, this study generated extensive data that provides the potential for additional analyses beyond those presented here. For example, we plan future research investigating whether factors associated with foster care experiences, such as placement stability, placement restrictiveness, and traumatic stress moderate the effects of *My Life* intervention on criminal justice outcomes. We also see the potential to develop a proposal to test the effectiveness of the *My Life* model as an intervention to reduce delinquency among crossover youth involved in both the child welfare and juvenile justice systems, and if the model proves effective for reducing delinquency with crossover youth, we can pilot and test the *My Life* model with a juvenile justice-involved population that experiences similar environmental risks as youth in foster care, but is not in foster care placement.

REFERENCES

- Algozzine, B., Browder, D., Karvonen, M., Test, D. W., & Wood, W. M. (2001). The effects of intervention to promote self-determination for individuals with disabilities. *Review of Educational Research, 71*, 219-277.
- 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.
- Arditti, J. A., & Savla, J. (2015). Parental incarceration and child trauma symptoms in single caregiver homes. *Journal of Child and Family Studies, 24*(3), 551-561.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review, 84*, 191-215.
- Bandura, A. (2006). Adolescent development from an agentic perspective. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 1-44). Greenwich, CT: Information Age Publishing.
- Betz, N.E., Klein, K.L., & Taylor, K.M. (1996). Evaluation of a short form of the Career Decision-Making Self-Efficacy Scale. *Journal of Career Assessment, 4*, 47-57.
- Blakeslee, J. E., Del Quest, A., Powers, J., Powers, L. E., Geenen, S., Nelson, M., ... & McHugh, E. (2013). Reaching everyone: Promoting the inclusion of youth with disabilities in evaluating foster care outcomes. *Children and Youth Services Review, 35*, 1801-1808.
- Blechman, E. A., & Bopp, J. M. (2005). Juvenile offenders. In D. L. DuBois & M. J. Karcher (Eds.), *Handbook of youth mentoring* (pp. 454-466). Thousand Oaks, CA: Sage Publications.
- Bocknek, E. L., Sanderson, J., & Britner, P. A. (2009). Ambiguous loss and posttraumatic stress in school-age children of prisoners. *Journal of Child and Family Studies, 18*(3), 323-333.
- 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. doi:10.1177/0002716203260102
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155.
- Cohen, M. A. (1998). The monetary value of saving a high-risk youth. *Journal of Quantitative Criminology, 14*(1), 5-33.
- Courtney, M. E., & Dworsky, A. (2006). Early outcomes for young adults transitioning from out-of-home care in the USA. *Child & Family Social Work, 11*(3), 209-219.
- Courtney, M. E., Dworsky, A., Hook, J., Brown, A., Cary, C., Love, K. Vorhies, V., Lee, J. Raap, M., Cusick, G., Keller, T., Havlicek, J., Perez, A., Terao, S., Bost, N. (2011). *Midwest Evaluation of the Adult Functioning of Former Foster Youth*. Chicago: Chapin Hall Center for at the University of Chicago.
- Courtney, M. E., Dworsky, A., Ruth, G., Keller, T., Havlicek, J., & Bost, N. S. (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., & Hughes-Heuring, D. (2005). The transition to adulthood for youth "aging out" of the foster care system (Chapter 2). In D.W. Osgood, E.M. Foster, C. Flanagan and G.R. Ruth (Eds.), *On your own without a net: The transition to adulthood for vulnerable populations* (pp. 27-67). Chicago: The University of Chicago Press.
- Courtney, M. E., Piliavin, I., Grogan-Kaylor, A., & Nesmith, A. (2001). Foster youth transitions to adulthood: A longitudinal view of youth leaving care. *Child Welfare, 80*(6), 685-717.
- Cross, T., Cooke, N. L., Wood, W. M., & 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, 4*99-510.
- Cusick, G. R., & Courtney, M. E. (2007). *Offending during late adolescence: How do youth aging out of care compare with their peers?* Chicago: Chapin Hall Center for Children at the University of Chicago.
- Day, A., Riebschleger, J., Dworksy, A., Damashek, A., & Fogarty, K. (2012). Maximizing educational opportunities for youth aging out of foster care by engaging youth voices in partnership for social change. *Children and Youth Review, 34*, 1007-1014. doi:10.1016/j.childyouth.2012.02.001
- Deci, E. L., & Ryan, R. M. (Eds.). (2002). *Handbook of self-determination research*. Rochester, NY: The University of Rochester Press.
- DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring programs for youth: A meta-analytic review. *American Journal of Community Psychology, 30*(2), 157-197.
- DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychological Science in the Public Interest, 12*(2), 57-91.
- Elliot, D. S., Huizinga, D., & Mernard, S. (1989). *Multiple problem youth: Delinquency, substance use, and mental health problems*. New York: Springer-Verlag.
- Geenen, S., & Powers, L. E. (2006). Are we ignoring youths with disabilities in foster care? An examination of their school performance. *Social Work, 51*(3), 233-241.
- Geenen, S. & Powers, L. E. (2007). Tomorrow is another problem: The experiences of youth in foster care during their transition to adulthood. *Children and Youth Services Review, 29*, 1085-1101.
- Geenen, S., Powers, L. E., Powers, J., Cunningham, M., McMahan, L., Nelson, M., . . . Research Consortium to Increase the Success of Youth in Foster Care. (2013). Experimental study of a self-determination intervention for youth in foster care. *Career Development and Transition for Exceptional Individuals, 36*(2), 84-95. doi:10.1177/2165143412455431
- Geenen, S., Powers, L. E., Phillips, L. A., Nelson, M., McKenna, J., Wings-Yanez, N., ... & Swank, P. (2015). Better Futures: A randomized field test of a model for supporting young people in foster care with mental health challenges to participate in higher education. *The Journal of Behavioral Health Services & Research, 42*(2), 150-171.
- Gloppen, K. M., David-Ferdon, C., & Bates, J. (2010). Confidence as a predictor of sexual and reproductive health outcomes for youth. *Journal of Adolescent Health, 46*(3), S42-S58.

- Greenwald, R., & Rubin, A. (1999). Brief assessment of children's post-traumatic symptoms: Development and preliminary validation of parent and child scales. *Research on Social Work Practice, 9*, 61-75.
- Grossman, J.B., & Garry, E. M. (1997). Mentoring: A proven delinquency prevention strategy. *OJJDP Bulletin, 1-17*.
- Henrichson, C., & Galgano, S. *A Guide to Calculating Justice-System Marginal Costs*. New York: Vera Institute of Justice, 2013.
- Hill, K. M. (2012). The prevalence of youth with disabilities among older youth in out-of-home placement: An analysis of state administrative data. *Child Welfare, 91*(4), 61.
- Hochman, G., Hochman A, & Miller J. (2004). *Foster care: Voices from the inside*. Pew Commission on Children in Foster Care.
- Jekielek, S. M., Moore, K. A., Hair, E. C., & Scarupa, H. J. (2002). Mentoring: A promising strategy for youth development. *Child Trends Research Brief, 2*, 1-8.
- Keller, T. E., Cusick, G. R., & Courtney, M. E. (2007). Approaching the transition to adulthood: Distinctive profiles of adolescents aging out of the child welfare system. *Social Service Review, 81*(3), 453-484.
- Keller, T. E., Salazar, A., & Courtney, M. E. (2010). Prevalence and timing of diagnosable mental health, alcohol, and substance use problems among older adolescents in child welfare systems. *Children and Youth Services Review, 32*, 626-634.
- Kenward, M. G., & Roger, J. H. (1997). Small sample inference for fixed effects from restricted maximum likelihood. *Biometrics, 983-997*.
- 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*(4), 177-191.
- McMillen, J. C., & Tucker, J. (1999). The status of older adolescents at exit from out-of-home care. *Child Welfare, 78*(3), 339-360.
- National Institute of Corrections. (2010). Statistics for the State of Oregon. Retrieved on December 1, 2017, from <https://nicic.gov/state-statistics/2015/oregon>
- Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., Wei, X., with Cameto, R., Contreras, E., Ferguson, K., Greene, S., and Schwarting, M. (2011). The Post-High School Outcomes of Young Adults with Disabilities up to 8 Years After High School. A Report From the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2011-3005). Menlo Park, CA: SRI International.
- Pecora, P. J., Kessler, R. C., O'Brien, K., White, C. R., Williams, J., Hiripi, E., ... & Herrick, M. A. (2006). Educational and employment outcomes of adults formerly placed in foster care: Results from the Northwest Foster Care Alumni Study. *Children and Youth Services Review, 28*, 1459-1481.
- Perkins, A., Calhoun, G. B., Glaser, B. A., & Kunemund, A. J. (2016). Identifying trauma symptoms among adjudicated youth using the BASC-2 SRP and CROPS. *The Journal of Forensic Psychiatry & Psychology, 27*(5), 665-683.

- Piquero, A., Macintosh, R., Hickman, M. (2002). The validity of a self-reported delinquency scale. *Sociological Methods & Research, 30*, 492-529.
- Powers, L. E. (2006). *Take charge for the future: Student guide (revised)*. Portland, OR: Portland State University, Regional Research Institute.
- Powers, L. E., Geenen, S., Powers, J., Pommier-Satya, S., Turner, A., Dalton, L., . . . Research Consortium to Increase the Success of Youth in Foster Care. (2012). My Life: Effects of a longitudinal, randomized study of self-determination enhancement on the transition outcomes of youth in foster care and special education. *Children and Youth Services Review, 34*, 2179-2187.
- 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 Publishing Co.
- Powers, L. E., Turner, A., Ellison, R., Matuszewski, J., Wilson, R., Phillips, A., & Rein. (2001a). A controlled field-test of TAKE CHARGE: A multi-component intervention to promote adolescent self-determination. *Journal of Rehabilitation, 67*(4), 14-20.
- Powers, L. E., Turner, A., Matuszewski, J., Wilson, R., Ellison, R., Westwood, D., Phillips, A. (2001b). 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.
- Quest, A. D., Fullerton, A., Geenen, S., & Powers, L. E., & The Research Consortium to Increase the Success of Youth in Foster Care. (2012). Voices of youth in foster care and special education regarding their educational experiences and transition to adulthood. *Children and Youth Services, 34*, 1604-1615. doi:10.1016/j.chilyouth.2012.04.018
- Rauktis, M. E., Huefner, J. C., O'Brien, K., Pecora, P. J., Doucette, A., & Thompson, R. W. (2009). Measuring the restrictiveness of living environments for children and youth: Reconceptualizing restriction. *Journal of Emotional and Behavioral Disorders, 17*(3), 147-163.
- 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.
- Schmidt, J., Cunningham, M., Dalton, L., Powers, L. E., Geenen, S., Orozco, C., & Research Consortium to Increase the Success of Youth in Foster Care. (2013). Assessing restrictiveness: A closer look at the foster care placements and perceptions of youth with and without disabilities aging out of care. *Journal of Public Child Welfare, 7*(5), 586-609. doi:10.1080/15548732.2013.845644
- Singer, E. R., Berzin, S. C., & Hokanson, K. (2013). Voices of former foster youth: Supportive relationships in the transition to adulthood. *Children and Youth Services Review, 35*, 2110-2117. doi:10.1016/j.chilyouth.2013.10.019
- 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, IL: Chapin Hill.
- Spencer, R., Collins, M. E., Ward, R., & Smashnaya, S. (2010). Mentoring for young people leaving foster care: Promise and potential pitfalls. *Social Work, 55*(3), 225-234.

- Tolan, P., Henry, D., Schoeny, M., & Bass, A. (2008). Mentoring interventions to affect juvenile delinquency and associated problems. *Campbell Systematic Reviews* 16: 1-112.
- Unrau, Y. A., Font, S. A., & Rawls, G. (2012). Readiness for college engagement among students who have aged out of foster care. *Children and Youth Services Review*, 34, 76-83.
doi:10.1016/j.chilyouth.2011.09.002
- U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau. (2017). *AFGARS preliminary report for FY 2016 (24) pp. 3*. Available online at <https://www.acf.hhs.gov/sites/default/files/cb/afcarsreport24.pdf>
- Walker, G. (2005). Youth mentoring and public policy. In D. L. DuBois & M. J. Karcher (Eds.), *Handbook of Youth Mentoring* (pp. 510-524). Thousand Oaks, CA: Sage Publications
- Wehmeyer, M. L. (1996). 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 Self-Determination Scale: Adolescent Version*. Washington D.C., WA: 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), 439-453.
- 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.
- Welsh, B. C., Farrington, D. P., & Gowar, B. R. (2015). Benefit-cost analysis of crime prevention programs. *Crime and Justice*, 44(1), 447-516.
- 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.
- 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.
- Yates, B. T. (1996). *Analyzing costs, procedures, processes, and outcomes in human services: An introduction*. Thousand Oaks, CA: Sage Publications.
- Zhang, D. (2001). The effect of Next STEP instruction on the self-determination skills of high school students with learning disabilities. *Career Development for Exceptional Individuals*, 24(2), 121-132.