Education and Training in Autism and Developmental Disabilities, 2014, 49(3), 440–448

Impact of the *Self-Determined Learning Model of Instruction* on Teacher Perceptions of Student Capacity and Opportunity for Self-Determination

Karrie A. Shogren
University of Kansas

Anthony J. Plotner
University of South Carolina

Susan B. Palmer and
Michael L. Wehmeyer
University of Kansas

Youngshil Paek
University of Illinois at Urbana-Champaign

Abstract: Promoting student self-determination is recognized as a key component of effective transition supports and services for youth with disabilities. This study examined differences in teacher perceptions of student capacity and opportunity for self-determination over the course of an academic year based on teacher assignment to a treatment group that implemented the Self-Determined Learning Model of Instruction or a control group that did not. Separate three-way repeated measures analysis of variance (ANOVA) were used to determine if there were any significant differences in teachers' ratings of student self-determination capacity and opportunity based on (a) time, (b) exposure to the SDLMI, and (c) disability category (intellectual vs. learning disability). Findings revealed that there was a significant interaction between time and treatment, however, the interaction between time and disability, and time by treatment by disability interaction was not significant. Results of this study suggest that when teachers are trained and supported to implement the Self-Determined Learning Model of Instruction (SDLMI) with students with disabilities significant increases in their perceptions of student capacity and opportunity for self-determination occur. Implications for future research and practice are discussed.

Promoting student self-determination is recognized as a key component of effective transition supports and services for youth with disabilities. Researchers have developed evidence-based practices to promote student self-determination (Cobb, Lehmann, Newman-Gonchar, & Alwell, 2009; Test et al., 2009) and demonstrated linkages between enhanced self-determination and positive postschool outcomes (Powers et al., 2012; Shogren, Wehmeyer, Palmer, Rifenbark, & Little, 2012; Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997). Despite the growing literature base supporting the importance of self-determination for youth with disabilities, researchers have also suggested that teachers struggle to implement self-determination instruction (Karvonen, Test, Wood, Browder, & Algozzine, 2004) and that specific student and school factors may impact the degree to which teachers perceive self-determination instruction as an important part of their limited instructional time (Wehmeyer, Agran, & Hughes, 2000). Mason, Field, and Sawilowsky (2004) surveyed over 500 teachers on the strategies they used to teach self-determination skills and found that majority of teachers reported teaching self-determination skills informally, rather than using evidence-based practices, and did not feel prepared to teach self-determination content. Wehmeyer and colleagues (2000) in a national survey of over 1,000 teachers reported similar findings, and also suggested that teachers perceived the importance of teaching self-determination skills differently based on student support need. Teachers rated instruction in self-determination skills, including decision making, problem

Correspondence concerning this article should be addressed to Karrie A. Shogren, University of Kansas, 1200 Sunnyside Ave., Rm. 3136, Lawrence, KS 66045. Email: shogren@ku.edu

solving, goal setting, self-management, advocacy, self-awareness as more important for students with mild disabilities than for students with severe disabilities, the only exception was choice-making skills.

Researchers have also compared teacher and student ratings of student capacity and opportunity for self-determination and found discrepancies (Carter, Trainor, Owens, Sweden, & Sun, 2010; Shogren et al., 2007). For example, Carter and colleagues (2010) compared student and teacher ratings on the *AIR Self-Determination Scale* (Wolman, Campeau, Dubois, Mithaug, & Stolarski, 1994), an assessment that explores student capacity and opportunity for self-determination, and found that students consistently rated their capacity higher than teachers. The authors suggest this may result from teachers not having insight into student self-determination because teachers do not have opportunities to observe students practice these skills. Shogren et al. (2007) found similar patterns of discrepancies, and both research teams found that teacher ratings of student opportunities for self-determination did not predict capacity ratings, suggesting a disconnect between opportunities provided at school and changes in student and teacher perceptions of student capacity for self-determination.

In order for educators to maximize self-determined behaviors in their students, opportunities must be provided in environments that lead to enhancements in student self-determination. And, researchers have shown when self-determination interventions are systematically implemented in schools, changes in student self-determination result (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, in press; Wehmeyer et al., 2012). For example, Wehmeyer et al. (2012) reported the results of a group randomized control study of the efficacy of the *Self-Determined Learning Model of Instruction* (SDLMI; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000) for improving student self-determination outcomes, documenting that the SDLMI led to significantly greater increases in student's self-reported self-determination levels in the treatment group, although disability label (intellectual disability vs. learning disability) influenced outcomes. Wehmeyer et al. (2012) did not, however, explore changes in teacher perceptions of student capacity and opportunity for self-determination. The purpose of this paper, therefore, is to address this gap in the literature, and explore differences in teacher perceptions of student capacity and opportunity for self-determination over the course of an academic year based on teacher assignment to a treatment group that implemented the SDLMI or a control group that did not.

Method

Participants and Procedure

Student participants were 312 high school students receiving special education services under the categorical label of intellectual disability (30%) or learning disability (70%). The mean age of the student participants was 16.5 (SD = 1.40; Range 13.5–21.3), and the sample was 56% male and 44% female. There were 57 teacher participants, with each teacher working with between one and 15 students (M = 4) participating in the project. Teachers ranged in age from 23 to 61 years (M = 40.6, SD = 10.4), and had between 1 and 36 years of teaching experience (M = 12.4, SD = 8.8). All teachers were certified to teach special education, and 11% had received their certification through an alternative route to certification. Fifty two percent had a master's degree in special education or a related field. The overwhelming majority (94%) of teachers reporting that they had learned about strategies to promote self-determination prior to the start of the study, with the majority reporting they had heard about self-determination through conference presentations (54%) or district in-services (44%). However, over 50% of teachers reported that they currently did not have any students using self-determination or leadership strategies. There were no significant differences in teacher demographic characteristics across the control and treatment group.

Participants were recruited from 38 high school campuses in 20 school districts in the Midwest and South Central United States to participate in a randomized control trial examining the impact of the *Self-Determined Learning Model of Instruction* (SDLMI) on student outcomes. To recruit participants, special education administrators (e.g., directors of special education, transition specialists)

were contacted. Interested districts identified campuses and special education teachers to participate. Teachers then identified students and parent/guardian consent forms were sent home with students. Each campus was randomly assigned to the treatment or control condition. In Year 1 of the project, teachers at treatment campuses were trained to implement the SDLMI, and received ongoing support from project staff to implement over the course of the year. Control campuses did not receive any training and continued "business as usual." Baseline data collection occurred prior to training and SDLMI implementation, and included teacher and student assessments of self-determination. The same assessments were repeated at the end of the year after implementation in the treatment group. In the second year of the project, the control campuses also received training and support, and self-determination was assessed again at the end of the second year. Wehmeyer et al. (2012) reported analyses of the student self-report data on self-determination, documenting that students showed significant increases in self-determination when exposed to the SDLMI on the *AIR Self-Determination Scale* as well as another measure, *The Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995). In the present study, teacher report data from the *AIR Self-Determination Scale* (the only self-determination assessment that has a teacher report form) was used to address our research question.

Intervention

Teachers in the treatment group received training on the *Self-Determined Learning Model of Instruction* (SDLMI; Wehmeyer, Palmer, et al., 2000). The SDLMI was designed to be a model of instruction that provided teachers with a framework to teach students to identify personal goals, develop an action plan to go after those goals, and evaluate their progress. The SDLMI incorporates skills associated with self-determined behavior (e.g., problem-solving, goal setting, self-regulation) and student-directed learning strategies. Implementation of the SDLMI occurs in three phases: Set a Goal (Phase 1), Take Action (Phase 2), and Adjust Goal or Plan (Phase 3). Each instructional phase presents a problem to be solved by the student, and teachers support students to work through four *Student Questions* to guide them through solving the problem posed in each phase. Each question is linked to a set of *Teacher Objectives* and a list of *Educational Supports* that teachers can use to enable students to self-direct learning. The SDLMI can be overlaid on any curricular area, and in this study teachers implemented the SDLMI in a variety of classes and instructional activities. Further detail about the SDLMI can be found in Wehmeyer et al. (2000).

Instrumentation

The AIR Self-Determination Scale. The AIR Self-Determination Scale is a criterion-referenced measure of the capacity and opportunity for self-determination of students with disabilities (Wolman et al., 1994). There are three versions of the AIR, the Student, Educator, and Parent version. The AIR-Educator version was used in this study and includes 30 questions rated on a five point Likert scale. The 30 questions are organized into five sections. The first three sections ask teachers to rate student knowledge, ability, and perceptions related to self-determination. The last two sections ask teachers about their views of student's opportunities for self-determination at school and at home. The first three sections contribute to a capacity subscale score, and the last two to an opportunity subscale score. The authors of the scale suggest an overall self-determination score can be calculated by summing the capacity and opportunity subscale scores.

The AIR was developed and normed with 450 students with and without disabilities in California and New York (Wolman et al., 1994), and shown to have adequate reliability and validity (Mithaug, Campeau, & Wolman, 2003). Recent research (Shogren et al., 2008) suggested that the AIR-Educator is best conceptualized at the subscale level (i.e., capacity and opportunity), because of issues with model fit when a higher-order self-determination construct is introduced.

Analyses

Separate three-way repeated measures analysis of variance (ANOVA) were used to determine

TABLE 1

Means, Standard Deviations, and N for Disability Category by Group, Measure, and Time

		Disability		*Time 1*		*Time 2*	
Group	*Measure*	*ID (n)*	*LD (n)*	*ID*	*LD*	*ID*	*LD*
Intervention	Capacity	30	52	53.33 (11.83)	59.67 (14.75)	58.67 (13.76)	66.04 (13.51)
	Opportunity	30	52	23.07 (4.11)	24.10 (3.72)	23.93 (4.44)	26.06 (3.54)
Control	Capacity	22	61	54.73 (11.87)	56.48 (10.98)	54.73 (11.68)	58.63 (10.02)
	Opportunity	23	62	24.83 (3.05)	24.26 (3.97)	24.70 (2.46)	24.50 (3.07)

Note. Standard deviations are denoted in parentheses. ID = Intellectual Disability; LD = Learning Disability

if there were any significant differences in teachers' ratings of student self-determination capacity and opportunity based on (a) time (time 1-baseline vs. time 2-end of year), (b) exposure to the SDLMI (SDLMI intervention group vs. control group), and (c) disability category (intellectual vs. learning disability). Time was a within-subjects factor and treatment and disability category were between-subjects factors.

Results

Table 1 displays the means and standard deviations for teacher ratings of the capacity and opportunity of students with intellectual and learning disabilities on the AIR-Educator.

Results of the repeated measures ANOVA for teacher ratings of student self-determination capacity are shown in Table 2. There was a significant interaction between *time* and *treatment*, $F(1,161) = 6.36$, $p = .013$, $\eta^2 = .038$. The interaction between *time* and *disability*, however, was not significant, $F(1,161) = 0.71$, $p = .401$, $\eta^2 = .004$, and neither was the *time* by *treatment* by *disability* interaction, $F(1,161) = 0.09$, $p = .768$, $\eta^2 = .001$.

Table 3 provides the results of the repeated measures ANOVA for teacher ratings of student self-determination opportunity. The *time* by *treatment* interaction for opportunity was significant, $F(1,161) = 5.23$, $p = .023$, $\eta^2 = .031$. However, *time* by *disability* interaction was not significant, $F(1,161) = 1.53$, $p = .218$, $\eta^2 = .009$, nor was the *time* by *treatment* by *disability* interaction, $F(1,161) = 0.37$, $p = .544$, $\eta^2 = .002$.

Figure 1 displays the average teacher ratings of student capacity and opportunity in the intervention and control group. At *Time 2*, teachers' ratings for students in the treatment group were significantly higher than those in the control group for both capacity and opportunity. For capacity, there was an average increase of 6.0 points in capacity scores, compared to only a 1.6 point increase for the control group, which was a significant difference. For opportunity, while students in the treatment group were actually rated lower in terms of their opportunities at baseline, they

TABLE 2

Repeated Measures ANOVA for Teachers' Rating of Students' Self-determination Capacity

Source	*df*	*Sum of Squares*	*Mean Squares*	*F*	η^2
Time	1	838.48	838.48	13.39**	0.077
time × treatment	1	398.23	398.23	6.36*	0.038
time × disability	1	44.33	44.33	0.71	0.004
time × treatment × disability	1	5.49	5.49	0.09	0.001
Residual	161	10079.74	62.61		

* $p < .05$. ** $p < .01$

TABLE 3

Repeated Measures ANOVA for Teachers' Rating on Students' Self-determination Opportunity

	df	*Sum of Squares*	*Mean Squares*	*F*	η^2
Time	1	38.52	38.52	6.13*	0.036
time × treatment	1	32.90	32.90	5.23*	0.031
time × disability	1	9.60	9.60	1.53	0.009
time × treatment × disability	1	2.33	2.33	0.37	0.002
Residual	161	1024.69	6.29		

* $p < .05$

showed significant change over time and by the end of the year, their scores were significantly higher than students in the control group.

Discussion

Results of this study suggest that when teachers are trained and supported to implement the *Self-Determined Learning Model of Instruction* (SDLMI) with students with disabilities significant increases in their perceptions of student capacity and opportunity for self-determination occur, compared to teachers who do not implement the SDLMI. Establishing significant positive changes in teacher perceptions of student capacity and opportunity as a function of implementing the SDLMI with students is an important addition to the existing literature that has, to this point, focused on changes in student self-reported levels of self-determination resulting from SDLMI instruction (Wehmeyer, Palmer, et al., 2000; Wehmeyer et al., 2012). This is the first study that also establishes a direct relationship between changes in teacher's self-determination instructional practices and their perceptions of student's self-determination outcomes.

Establishing that change occurs at the student and the teacher level is important for several reasons. First, in terms of capacity, the results suggest that after teaching students self-determination skills using the SDLMI, teachers perceive significant changes in their student's knowledge, abilities, and perceptions related to self-determination. While it is logical that changes in teacher perceptions of student capacity would result from instruc-

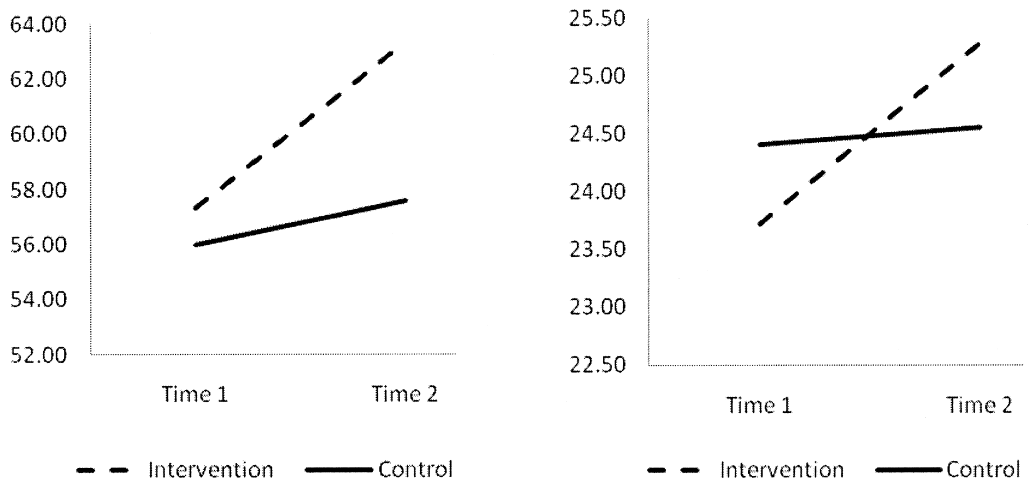

Figure 1. Time by treatment interaction on capacity (left) and opportunity (right).

tion, it is important to establish this empirically. Further, as shown in panel 1 of Figure 1, some increases in teacher perceptions of student capacity, even in the control group occurred perhaps because of student maturation and the developmental nature of the self-determination construct (Shogren & Turnbull, 2006), as well as other opportunities at home, in the community, and in other classes. However, the significantly steeper pattern of change in teacher perceptions of capacity in the treatment group suggests that the SDLMI had an impact on student knowledge, abilities, and perceptions and that teachers were able to recognize these changes in student behavior. Carter and colleagues (2010) suggest that discrepancies in ratings made by students and teachers about student capacity for self-determination may result from teachers not having insight into student self-determination because teachers do not frequently observe self-determined behavior in the classroom because of a lack of opportunities for students to use these skills. The present study suggests that when such opportunities are provided, teachers observe significant changes in student behavior. Further, research is needed on the impact of teachers observing such changes on their ongoing instructional practices and their perceptions of student capacity. For example, does observing such change in students make teachers more likely to continue to implement self-determination instruction for current and future students? Additionally, Elmore (2005) found that teachers often connect student learning with student characteristics and not their own teaching practices. Does implementing an intervention such as the SDLMI and seeing change in student behavior lead to teacher's better understand their student's capacities?

Second, in terms of opportunity, researchers have established that teachers do not feel confident in their ability to implement self-determination instruction (Mason et al., 2004; Wehmeyer, Agran, et al., 2000), and therefore, their ability to impact student self-determination. The results of this study suggest, however, that when teachers are trained and receive support to implement the SDLMI with students, they perceive students as having significantly greater opportunities for self-determination. As shown in the second panel of Figure 1, despite initial differences in the treatment and control group with teachers rating treatment group students as having significantly lower opportunities for self-determination, the control group's opportunity ratings stayed relatively flat over the course of the study while the treatment group's opportunities ratings shown significant and steep growth. As with capacity, it is important to establish empirically that teachers perceive the SDLMI as creating additional opportunities for students to engage in self-determined behavior. The results suggest that without training and support teachers may not have the resources or knowledge to implement self-determination instruction. This could be due to the fact that special education teachers report not learning about self-determination in pre-service programs (Thoma, Baker, & Saddler, 2002), or that teachers often have limited support for thinking concretely and creatively about how to create opportunities for self-determination throughout the instructional day. The SDLMI provides a natural mechanism for self-determination instruction to be overlaid throughout the curriculum, and researchers have argued that a central aspect of enabling students to become self-determined young people is to create repeated opportunities for these skills to be practiced throughout the instructional day (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Shogren et al., 2007; Wehmeyer & Schalock, 2001). This study demonstrates that when teachers are provided training and support, in this case from university personnel, changes in teacher perceptions of student opportunities for self-determination occur. Further research is needed, however, on how to create and sustain these changes as well as on how to enable teachers to generalize instruction to subsequent students.

Unexpectedly, no significant differences were found in teacher ratings of student capacity and opportunity for self-determination based on disability label (intellectual disability vs. learning disability). In previous studies, researchers have found that teachers tend to rate capacity for self-determination lower for students with intellectual disability, although they do not tend to rate opportunities differently (Shogren et al., 2007). Further, students

with intellectual disability tend to rate their overall levels of self-determination lower than students with learning disability (Shogren et al., 2007; Wehmeyer et al., 2012). It is possible that these findings were an artifact of the relatively small sample size in the intellectual disability group particularly given that, as shown in Table 1, small (but non-significant) differences consistent with previous research were observed across disability groups. Further research is needed, with a larger sample that further explores differences in perceptions related to disability label as well as other student characteristics. For example, Shogren, Kennedy, Dowsett, and Little (in press) explored data on the essential characteristics of self-determination measured in the National Longitudinal Transition Study-2 and found that rather than mean level differences between disability groups as found in the majority of previous research, when exploring self-determination data with the nationally representative NLTS2 sample differences were more prevalent in the latent variances, suggesting significant variability in the distribution of scores within disability groups as well as across disability groups. Further research is needed to develop a more in-depth understanding of the factors that influence student's relative levels of self-determination as well as teacher perceptions of student's capacity and opportunity for self-determination.

Limitations

While the results of this study provide important information about teacher perceptions of student capacity as a function of the implementation of the SDLMI, there are several limitations that must be considered in interpreting the findings. First, the primary purpose of the overall project from which these data were collected was to analyze changes in student's self-reported levels of self-determination. Thus, sample selection was concentrated primarily at the student level, not at the teacher level. Although random assignment occurred at the campus level, meaning both students and teachers within each high school campus were randomly assigned to the treatment or control group regardless of their individual characteristics, in terms of sample size and sample characteristics, the focus was on recruiting a sufficient sample of students. Further research is needed that targets teachers as the key unit of analysis, particularly to understand changes in their behavior and to ensure a sufficient sample size to explore both student and teacher characteristics that influence the results, which we were not able to do in this study because of the relatively small sample of teachers. Second, for the opportunity subscale on the AIR Self-Determination Scale, there were significant differences in teacher's initial ratings of student opportunities for self-determination across the control and treatment group, with the control group scoring higher in opportunities. This suggests there may have been systematic difference in the control and treatment group, not accounted for by the random assignment at the campus level. Despite these initial differences, however, limited change was observed in the control group, and the treatment group increased significant, suggesting an impact of the SDLMI intervention. Third, multiple factors both within and outside the school environment can impact student capacity for self-determination as well as teacher's practices related to creating opportunities for self-determination instruction. We were unable to explore all of these factors in our analyses, and more work is needed to systematically examine the complex factors that influence teacher's chosen instructional practices and student outcomes.

Implications for Future Research and Practice

Researchers have asserted that self-determination instruction should be strewn throughout the school day in multiple learning contexts so that students have frequent opportunities to practice self-determination skills (Carter & Lunsford, 2005). Given past research suggesting that teachers do not feel adequately prepared in their preservice programs to teach self-determination (Mason et al., 2004; Wehmeyer, Agran, et al., 2000), future research is needed focused on the development of preservice training activities that lead to greater teacher self-efficacy in teach self-determination. Research is also needed on supports for in-service teachers to enable them to infuse self-determination into their curriculum. Researchers have suggested the

importance of school leadership buy-in, as well as time to develop and implement activities (Eisenman & Chamberlin, 2001). In the present project, university support was available to deliver in-service training as well as to provide ongoing support for teachers on their implementation in the classroom; further work is needed on models for professional development around self-determination that support and enable teachers to learn about and implement self-determination instruction, including the development of school-university partnerships.

In practice, the results of this research suggest the impact that providing opportunities for self-determination using the SDLMI can have on teacher perceptions of student capacity and opportunities. As teachers have opportunities to implement instruction and see self-determination come to fruition in students they will become more able to facilitate greater self-determined behaviors through rigorous instruction and curricular experiences. Perhaps the more teachers experience this, the more growth they may perceive in students and the greater changes they may see both in their instructional practices and in the students they teach. Field and Hoffman (2002) suggest that implementing self-determination curricula could give practitioners the opportunities to become familiar with new content, adapt their skills to new materials, adopt the curricular activities to the environment, and take initiative to create changes in their classrooms. Walker et al. (2011) state that how individuals perceive individuals with disabilities is often a major limiting factor in the creation of opportunities for self-determined behavior. Perhaps as teachers see changes in students linked with instruction they are delivering, this will create even more opportunities for embedding opportunities for self-determination through the instructional day and improving student self-determination outcomes.

References

Algozzine, B., Browder, D., Karvonen, M., Test, D. W., & Wood, W. M. (2001). Effects of interventions to promote self-determination for individuals with disabilities. *Review of Educational Research, 71,* 219–277. doi: 10.3102/00346543071002219

Carter, E. W., & Lunsford, L. B. (2005). Meaningful work: Improving employment outcomes for transition-age youth with emotional and behavioral disorders. *Preventing School Failure, 49,* 63–69.

Carter, E. W., Trainor, A., Owens, L., Sweden, B., & Sun, Y. (2010). Self-determination prospects of youth with high-incidence disabilities: Divergent perspectives and related factors. *Journal of Emotional and Behavioral Disorders, 18,* 67–81. doi: 10.1177/1063426609332605

Cobb, R. B., Lehmann, J., Newman-Gonchar, R., & Alwell, M. (2009). Self-determination for students with disabilities: A narrative metasynthesis. *Career Development for Exceptional Individuals, 32,* 108–114. doi: 10.1177/0885728809336654

Eisenman, L. T., & Chamberlin, M. (2001). Implementing self-determination activities: Lessons from schools. *Remedial and Special Education, 22,* 138–147.

Elmore, R. F. (2005). *School reform from the inside out: Policy, practice, and performance.* Cambridge, MA: Harvard Education Press.

Field, S., & Hoffman, A. (2002). Preparing youth to exercise self-determination: Quality indicators of school environments that promote the acquisition of knowledge, skills, and beliefs related to self-determination. *Journal of Disability Policy Studies, 13,* 113–118.

Karvonen, M., Test, D. W., Wood, W. M., Browder, D., & Algozzine, B. (2004). Putting self-determination into practice. *Exceptional Children, 71,* 23–41.

Mason, C., Field, S., & Sawilowsky, S. (2004). Implementation of self-determination activities and student participation in IEPs. *Exceptional Children, 70,* 441–451.

Mithaug, D. E., Campeau, P. L., & Wolman, J. M. (2003). Assessing self-determination prospects among students with and without disabilities. In D. E. Mithaug, D. K. Mithaug, M. Agran, J. E. Martin & M. L. Wehmeyer (Eds.), *Self determined learning theory: Construction, verification, and evaluation* (pp. 61–76). Mahwah, NJ: Lawrence Erlbaum Associates.

Powers, L. E., Geenen, S., Powers, J., Pommier-Satya, S., Turner, A., Dalton, L., Swand, P. (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.

Shogren, K. A., Kennedy, W., Dowsett, C., & Little, T. D. (in press). Autonomy, psychological empowerment, and self-realization: Exploring data on self-determination from NLTS2. *Exceptional Children.*

Shogren, K. A., & Turnbull, A. P. (2006). Promoting self-determination in young children with disabil-

ities: The critical role of families. *Infants and Young Children, 19,* 338–352.

Shogren, K. A., Wehmeyer, M. L., Palmer, S. B., Rifenbark, G. G., & Little, T. D. (2012). Post-school outcomes of youth with disabilities: The impact of self-determination. *Manuscript submitted for publication.*

Shogren, K. A., Wehmeyer, M. L., Palmer, S. B., Soukup, J. H., Little, T. D., Garner, N., & Lawrence, M. (2007). Examining individual and ecological predictors of the self-determination of students with disabilities. *Exceptional Children, 73,* 488–509.

Shogren, K. A., Wehmeyer, M. L., Palmer, S. B., Soukup, J. H., Little, T. D., Garner, N., & Lawrence, M. (2008). Measuring self-determination: Examining the relationship between The Arc's Self-Determination Scale and the AIR Self-Determination Scale. *Assessment for Effective Intervention, 33,* 94–107.

Test, D. W., Fowler, C. H., Richter, S. M., White, J., Mazzotti, V., Walker, A. R., Kortering, L. (2009). Evidence-based practices in secondary transition. *Career Development for Exceptional Individuals, 32,* 115–128. doi: 10.1177/0885728809336859

Thoma, C. A., Baker, S. R., & Saddler, S. J. (2002). Self-determination in teacher education: A model to facilitate transition planning for students with disabilities. *Remedial and Special Education, 23,* 82–89. doi: 10.1177/074193250202300204

Walker, H. M., Calkins, C., Wehmeyer, M. L., Walker, L., Bacon, A., Palmer, S. B., Johnson, D. R. (2011). A social-ecological approach to promote self-determination. *Exceptionality, 19,* 6–18. doi: 10.1080/09362835.2011.537220

Wehmeyer, M. L., Agran, M., & Hughes, C. (2000). A national survey of teachers' promotion of self-determination and student-directed learning. *Journal of Special Education, 34,* 58–68.

Wehmeyer, M. L., & Kelchner, K. (1995). *The Arc's Self-Determination Scale.* Arlington, TX: The Arc National Headquarters.

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,* 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,* 439–453.

Wehmeyer, M. L., Palmer, S. B., Shogren, K. A., Williams-Diehm, K., & Soukup, J. (in press). Establishing a causal relationship between interventions to promote self-determination and enhanced student self-determination. *Journal of Special Education.*

Wehmeyer, M. L., & Schalock, R. L. (2001). Self-determination and quality of life: Implications for special education services and supports. *Focus on Exceptional Children, 33*(8), 1–16.

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,* 245–255.

Wehmeyer, M. L., Shogren, K. A., Palmer, S. B., Williams-Diehm, K., Little, T. D., & Boulton, A. (2012). Impact of the Self-Determined Learning Model of Instruction on student self-determination: A randomized-trial placebo control group study. *Exceptional Children, 78,* 135–153.

Wolman, J., Campeau, P., Dubois, P., Mithaug, D., & Stolarski, V. (1994). *AIR Self-Determination Scale and user guide.* Palo Alto, CA: American Institute for Research.

Received: 14 November 2012
Initial Acceptance: 9 January 2013
Final Acceptance: 2 March 2013