



Autonomy-Supportive Interventions: Promoting Self-Determined Learning

Michael L. Wehmeyer¹ & Karrie A. Shogren²

¹ Full Professor, University of Kansas

² Associate Professor University of Kansas

Abstract

Promoting self-determination enables the implementation of strategies based upon research in positive psychology and strengths-based, positive approaches to disability. This article provides an overview of the self-determination construct and discuss Self-Determination Theory and Causal Agency Theory, theoretical frameworks that inform the development of self-determination and the creation of environments that support self-determination and autonomous motivation. We then provide information about and evidence supporting the implementation of an autonomy-supportive intervention, the Self-Determined Learning Model of Instruction (SDLMI).

Keywords: Self determined learning, supportive intervention, Causal Agency Theory

Introduction

Autonomy-Supportive Interventions: Promoting Self-Determined Learning

For the past quarter century, we have conducted research on the self-determination construct in the disability context, and engaged in efforts to design and evaluate the impact of interventions to promote self-determination on outcomes for youth with disabilities. Recently, Shogren, Wehmeyer, Palmer, Forber-Pratt, Little and Lopez (2015) introduced Causal Agency Theory as a means to better align work on self-determination in the disability context with research in motivation theory (Self-Determination Theory) and to describe the development of self-determination. This article provides an overview of the self-determination construct in the context of human agentic theories, self-determination in motivation, Causal Agency Theory, and a model of the development of self-determination. We then provide information about and evidence supporting the implementation of an autonomy-supportive intervention, the Self-Determined Learning Model of Instruction (SDLMI).

Self-Determination

Shogren and colleagues (2015) conceptualized self-determination as a general psychological construct within the organizing structure of theories of human agentic behavior. Human agentic theories “share the meta-theoretical view that organismic aspirations drive human behaviors” (Little, Snyder, & Wehmeyer, 2006, p. 61). An organismic perspective views people as active contributors to, or agents of, their behavior. An agentic person is the “origin of his or her actions, has high aspirations, perseveres in the face of obstacles, sees more and varied options for action, learns from failures, and overall, has a greater sense of well-being” (Little, Hawley, Henrich, & Marsland, 2002, p. 390). An agentic person engages in self-regulated and goal-directed action, they “plot and navigate a chosen course through the uncertainties and challenges of the social and ecological environments... continuously interpreting and evaluating actions and their consequences” (Little et al., 2002, p. 390). This continually evolving and actively monitored self-system gives rise to a sense of personal agency, or of the agentic self. The agentic self has a “sense of personal empowerment, which involves both knowing and having what it takes to achieve one’s goals” (Little et al., 2002, p. 390).

An organismic perspective views people as active contributors to, or authors of their behavior, where behavior is described as self-regulated and goal-directed action. Such actions are defined as purposive and self-initiated activities (Brandtstädter, 1998; Chapman, 1984; Harter, 1999). As outlined by Little et al. (2006), human agentic actions are (1) motivated by biological and psychological needs (Deci & Ryan, 2002; Hawley, 1999; Hawley & Little,

2002; Little et al., 2002); (2) directed toward self-regulated goals that service short- and long-term biological and psychological needs; (3) propelled by understandings of links among agents, means, and ends (Chapman, 1984; Little, 1998; Skinner, 1995, 1996), and guided by general action-control behaviors that entail self-chosen forms and functions (Little, Lopez, & Wanner, 2001; Skinner & Edge, 2002; Vanlede, Little, & Card, 2006); (4) those that precipitate self-determined governance of behavior and development, which can be characterized as hope-related individual differences; and (5) are triggered, executed, and evaluated in contexts that provide supports and opportunities, as well as hindrances and impediments to goal pursuit.

An organismic approach to self-determination requires an explicit focus on the interface between the self and context (Little et al., 2002). Organisms influence and are influenced by the contexts in which they live and develop. Through this person–context interaction people become agents of their own action.

Self-Determination Theory

Self-determination theory (SDT) is a highly visible and comprehensive macro-theory developed by Edward Deci and Richard Ryan to explain the origins and outcomes of human agentic action (Deci & Vansteenkiste, 2004; Vansteenkiste, Niemiec, & Soenens, 2012). Standing in contrast to theories that stress the dependence of behavior on environmental contingencies; SDT is based on the *organismic paradigm*; one that assumes an inherent order to both biological and psychological systems (Ryan, 1995). Self-Determination Theory is a macro-theory of motivation, personality, and functioning that perceives human behavior as growth-oriented and pro-active (Deci & Vansteenkiste, 2004; Deci & Ryan, 2012).

According to SDT, three basic psychological needs; competence, autonomy, and relatedness, must be met in order to support healthy psychological development (Deci & Ryan, 2012). Deci and Vansteenkiste (2004) explained the need for competence as reflecting individuals' desire to effectively master their environment and the need for autonomy as a desire to feel an integrated sense of self through choice, agency, and volition. The need for relatedness refers to a sense of belonging and connectedness with others, to care and be cared for (Ryan & Deci, 2002). Deci and Ryan (2012) developed five mini-theories to explain the operations of Self-Determination Theory. The five mini-theories; cognitive evaluative theory, causality orientations theory, organismic integration theory, basic psychological needs theory, and goal content theory, each explain a set of observed motivational phenomena (Ryan & Deci, 2002).

Deci and Ryan (2012) introduced *cognitive evaluation theory* (CET) to explain the types of external events that would enhance or diminish intrinsic motivation, to identify autonomy-supportive social contexts versus controlling social contexts, and to explain the interactions of external events and social contexts and their effects on intrinsic motivation. To further explain individual differences in motivation-related behavior, Deci and Ryan (2012) proposed *causality orientations theory* (COT), positing three different personality orientations based on the source of initiation and regulation of behavior: autonomous, controlled, and impersonal (Deci & Ryan, 1985). The autonomous orientation is associated with orienting towards internal and external cues in a way that supports one's autonomy and the informational significance of cues. The controlled orientation is associated with perceiving internal and external cues as controlling and demanding. Finally, the impersonal orientation is associated with perceiving cues as indicators of incompetence and is linked with amotivation.

A third, related mini-theory under SDT is known as *organismic integration theory* (OIT). Deci and Ryan (1985) formulated this theory to explain behavior that is externally

motivated but also either controlled or autonomous. Deci and Ryan (1985) proposed five types of motivation on a continuum from extrinsic to intrinsic, that explain why people engage in behaviors. These are external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation. Researchers have used this theory to demonstrate desirable behaviors that are more highly internally regulated tend to be maintained. Also, it was found that more autonomous regulation was associated with positive outcomes such as wellness, engagement, and perceived competence (Deci & Ryan, 2012).

As research evidence accumulated for the above mini-theories, Deci and Ryan (2012) noted continued evidence for the importance of the three basic psychological needs; autonomy, competence, and relatedness. The researchers formalized a theory, *basic psychological needs theory* (BPNT) based upon findings that environments and contexts that support psychological needs satisfaction were associated with greater feelings of well-being, psychological health, and greater positive affect in both work and non-work related environments (Ryan, Bernstein, & Brown, 2010).

As a further development to the psychological needs fulfillment work, Deci, Ryan, and colleagues gathered evidence for the importance of the contents and targets of goals that people pursue. *Goal content theory* (GCT) posits that extrinsic goals such as financial wealth, image, and fame are less likely to satisfy the three basic psychological needs compared to intrinsic goals such as personal growth and emotional closeness (Sheldon, Ryan, Deci, & Kasser, 2004). Empirical evidence for GCT indicates that pursuing extrinsic goals leads to less well-being and poorer performance whereas pursuing intrinsic goals leads to greater well-being; presumably due to increased satisfaction of the basic psychological needs (Deci & Ryan, 2012).

With motivation, choice, and attribution as SDT's fundamental theoretical bases, a substantial empirical tradition has arisen from research in this area. Self-Determination Theory has been applied to study diverse social issues such as health behavior and maintenance, education and school adjustment, psychotherapy, and sport and physical activity (Deci & Ryan, 2002).

Causal Agency Theory

Drawing on the foundational understanding of self-determination as (1) self-caused action from philosophy; (2) a central process of an organism in the movement toward autonomous determination, from personality psychology; and (3) motivated by the basic psychological needs of competence, autonomy, and relatedness from SDT, Shogren et al., (2015) proposed Causal Agency Theory to explain how people become self-determined; that is how they define the actions and beliefs necessary to engage in self-caused, autonomous action that addresses basic psychological needs.

Within the context of Causal Agency Theory, Shogren and colleagues define self-determination as a

...dispositional characteristic manifested as acting as the causal agent in one's life. Self-determined people (i.e., causal agents) act in service to freely chosen goals. Self-determined actions function to enable a person to be the causal agent in his or her life (p. 258).

A dispositional characteristic is an enduring tendency used to characterize and describe differences between people; it refers to a tendency to act or think in a particular way, but presumes contextual variance (i.e., socio-contextual supports and opportunities and threats and impediments). As a dispositional characteristic, self-determination can be measured, and

variance will be observed across individuals and within individuals over time, particularly as the context changes (e.g., supports and opportunities are provided for self-determined action).

Broadly defined, causal agency implies that it is the person who makes or causes things to happen in their life. Causal agency implies more, however, than just causing action; it implies that the individual acts with an eye toward causing an effect to accomplish a specific end or to cause or create change. Self-determined actions enable a person to act as a causal agent.

Within Causal Agency Theory, self-determined action is characterized by three essential characteristics – volitional action, causal action, and action-control beliefs. These essential characteristics refer not to specific actions performed or the beliefs that drive action, but to the function the action serves for the individual; that is, whether the action enabled the person to act as a causal agent:

Volitional action: Self-determined people act volitionally. Volition refers to making a conscious choice based upon one’s preferences. Conscious choice implies intentionality; self-determined actions are intentionally conceived, deliberate acts that occur without direct external influence. As such, volitional actions are self-initiated and function to enable a person to act autonomously (i.e., engage in self-governed action). Volitional actions involve the initiation and activation of causal capabilities—the capacity to cause something to happen—and something to happen in one’s life.

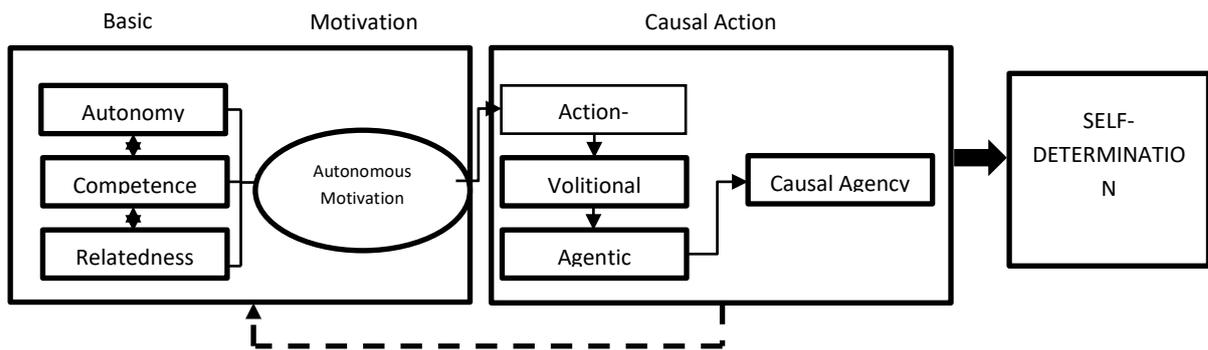
Agentic action: An agent is someone who acts; a means by which something is done or achieved. Agency refers to action in the service of a goal. Self-determined people act to identify pathways that lead to a specific ends or cause or create change. The identification of pathways is a proactive, purposive process. As such, agentic actions are self-regulated and self-directed. Such actions function to enable a person to make progress toward freely chosen goals and respond to opportunities and challenges in their environments. Such actions involve agentic capabilities; the capacity to direct it to achieve an outcome.

Action-control beliefs: Self-determined people have a sense of personal empowerment; they believe they have what it takes to achieve freely chosen goals. There are three types of action-control beliefs: beliefs about the link between the self and the goal (control expectancy; “When I want to do ____, I can”); beliefs about the link between the self and the means for achieving the goal (capacity beliefs; “I have the capabilities to do ____”); and beliefs about the utility or usefulness of a given means for attaining a goal (causality beliefs; “I believe my effort will lead to goal achievement” vs. “I believe other factors – luck, access to teachers or social capital – will lead to goal achievement”). Positive action-control beliefs function to enable a person to act with self-awareness and self-knowledge in an empowered, goal-directed manner.

Development of Self-Determination

The assumptions inherent in theories of human agentic action and research and theory in motivation (SDT) and causal action (Causal Agency Theory) create an organizational framework for a theoretical model of the development of self-determination (see Figure 1).

Figure 1. Flow chart of development of self-determination (Wehmeyer & Shogren, 2014).



At the beginning of this system are basic psychological needs for autonomy, competence, and relatedness proposed by SDT. Satisfaction of these basic needs facilitates autonomous motivation, defined as intrinsic motivation and well-internalized extrinsic motivation (Deci & Ryan, 2012, p. 88). Consistent with assumptions of organismic theories, the interplay between the context and the individual's psychological needs satisfaction is complex and reciprocal. When a motive or motives are salient, people are in a position to select goals on the basis of their expectations about the satisfaction of these motives (Deci & Ryan, 1985). As per Figure 1, these psychological needs initiate a causal action sequence that, through interaction with environmental supports and opportunities, enables the development of a "synergistic set of action-control beliefs and behaviors that provide the self-regulatory foundation that is called upon to negotiate the various tasks and challenges of the life course (Little, et al, 2002, p. 396). Action-control beliefs about the link between the self and the goal (control expectancy beliefs), the links between the self and the means that are available for use to address a challenge (agency beliefs), and about which specific means are most effective for reaching one's goals (causality beliefs) (Little et al., 2002, p. 396) interact with and mediate volitional and agentic actions resulting in causal agency. Repeated experiences with the causal action sequence leads to multiple experiences with causal agency and, as a result, enhanced self-determination.

Autonomy Supportive Classrooms and Instruction

The prior sections have described the theoretical frames we have used to understand issues pertaining to self-determination and to describe its development. This section will describe research examining what can be done in schools promote autonomous motivation and self-determined learning to promote the development of self-determination, as described previously. We begin with a brief summary of research pertaining to creating autonomy-supportive classrooms, then provide information about an intervention, the Self-Determined Learning Model of Instruction, that we have developed and evaluated and has been shown to have a causal relationship with enhanced self-determination and more positive school and adult outcomes for youth with disabilities.

Autonomy-Supportive Classrooms

Creating autonomy-supportive classrooms involves establishing learning environments that maximize student involvement and self-direction and minimize teacher-controlled actions. Reeve (2002) summarized several studies of autonomy supportive teaching and concluded that, among instructional behaviors:

...autonomy-supportive teachers distinguished themselves by listening more, spending less time holding instructional materials such as notes or books, giving

students time for independent work, and giving fewer answers to the problems students face (p. 186).

In examining conversational statements of autonomy-supportive teachers, Reeve found that they avoided directives, praised mastery, avoided criticism, gave answers less often, responded to student-generated questions and communicating statement with empathy and perspective taking. Reeve concluded that autonomy-supportive teachers are responsive, flexible, and motivate through interest. Controlling teachers take charge, shape students toward a right answer, evaluate, and motivate through pressure. Autonomy-supportive classrooms are learning communities in which students have meaningful roles in setting classroom rules, feel safe to explore and take risks, are supported to solve problems and set personal goals, and are responsible for monitoring and evaluating their progress.

Strategies to promote autonomous motivation

Creating a learning community and engaging in autonomy-supportive instructional and conversational actions begin the process of promoting student autonomous motivation. De Naeghel and colleagues (2014) identified strategies linked to each of the basic psychological needs identified by SDT: autonomy, competence, and relatedness. Autonomy support strategies, linked to the basic need for autonomy, include giving students options from which to choose, identifying and basing instruction upon students' preferences and interests, and promoting student self-initiation of actions. Structure strategies, linked to the students' need for competence, involve practices that provide optimal challenges for students, clearly communicating expectations, and consistent and positive feedback. Involvement strategies are linked to students' need for relatedness, and include strategies that emphasize relationship-building and positive social interactions.

Autonomy-Supportive Instructional Strategies

Goal setting, problem-solving, and self-regulation strategies are critical to the development of causal agency, and form the basis of efforts to implement autonomy-supportive instructional strategies. The most effective interventions that incorporate goal-setting and self-regulation strategies do not implement them individually, but as part of a multicomponent package containing multiple self-regulation strategies and goal setting instruction and supports (Cobb, Lehmann, Newman-Gonchar, & Alwell, 2009). Components in such interventions focus on teaching goal setting and attainment and self-regulation strategies, like self-monitoring, self-instruction, and self-evaluation. An evidence-based, multicomponent instructional strategy that we have developed and implemented in the context of educating students with disabilities is the Self-Determined Learning Model of Instruction (SDLMI) (Wehmeyer et al., 2009), which is described in the following section.

Self-Determined Learning Model of Instruction

The Self-Determined Learning Model of Instruction (SDLMI; Wehmeyer, et al., 2009) is an evidence-based practice to enable teachers to teach students to self-regulate themselves. Appropriate for use with students with and without disabilities across a wide range of content areas, the SDLMI enables teachers to engage students in the totality of their educational program by increasing opportunities to self-direct learning and, in the process, to enhance student self-determination.

Implementation of the model consists of a three-phase instructional process, depicted in Table 1. Each instructional phase presents a problem to be solved by the student. The student solves each problem by posing and answering a series of four Student Questions per phase that students learn, modify to make their own, and apply to reach self-selected goals. Each question is linked to a set of Teacher Objectives. Each instructional phase also includes a list of Educational Supports teachers can use to enable students to self-direct learning. In

each instructional phase, the student is the primary agent for choices, decisions, and actions, even when eventual actions are teacher-directed.

Table 1. *Self-Determined Learning Model of Instruction*

Phase 1: Set a Goal		
Student Problem to Solve: What is my goal?		
Student Questions	Teacher Objective	Educational Supports
What do I want to learn?	<ul style="list-style-type: none"> • Enable Students to identify specific strengths and instructional need. • Enable students to communicate preferences, interest, beliefs, and values. • Teach students to prioritize needs 	<ul style="list-style-type: none"> • Student self-assessment of interests, abilities, and instructional needs. • Choice-making instruction. • Problem-solving instruction. • Decision-making instruction. • Goal-setting and attainment instruction.
What do I know about it now?	<ul style="list-style-type: none"> • Enable students to identify their current status in relation to the instructional need. • Assist students to gather information about opportunities and barriers in their environment. 	
What must change for me to learn what I don't know?	<ul style="list-style-type: none"> • Enable students to decide if action will be focused toward capacity building, modifying the environment, or both. • Support students to choose a need to address from the prioritized list. 	
What can I do to make this happen?	<ul style="list-style-type: none"> • Teach students to state a goal and identify criteria for achieving goal. 	
Phase 2: Take Action		
Student Problem to Solve: What is my Plan?		
Student Questions	Teacher Objective	Educational Supports
What can I do to learn what I don't know?	<ul style="list-style-type: none"> • Enable student to self-evaluate current status and self-identified goal status. 	<ul style="list-style-type: none"> • Self-scheduling. • Self-instruction. • Choice-making instruction. • Teach students to state a goal and identify criteria for achieving goal. • Antecedent cue regulation. • Goal-setting instruction. • Goal-attainment strategies. • Problem-solving instruction. • Decision-making instruction. • Self-advocacy instruction. • Assertiveness training. • Communication skills training. • Self-monitoring.
What could keep me from taking action?	<ul style="list-style-type: none"> • Enable student to determine plan of action to bridge gap between self-evaluated current status and self-identified goal status. 	
What can I do to remove these barriers?	<ul style="list-style-type: none"> • Collaborate with student to identify most appropriate instructional strategies. • Teach student needed student-directed learning strategies. • Support student to implement student-directed learning strategies. • Provide mutually agreed upon teacher-directed instruction. 	
When will I take action?	<ul style="list-style-type: none"> • Enable student to determine schedule for action plan. • Enable student to implement action plan. • Enable student to self-monitor progress. 	
Phase 3: Adjust Goal or Plan		
Student Problem to Solve: What have I learned?		
Student Questions	Teacher Objective	Educational Supports
What actions have I taken?	<ul style="list-style-type: none"> • Enable student to self-evaluate progress toward goal achievement. 	<ul style="list-style-type: none"> • Self-evaluation strategies. • Choice-making instruction. • Goal-setting instruction • Goal-attainment strategies. • Problem-solving instruction.
What barriers have been removed?	<ul style="list-style-type: none"> • Collaborate with student to compare progress with desired outcomes. 	
What has changed about what I don't	<ul style="list-style-type: none"> • Support student to re-evaluate goal if progress is insufficient. 	

know?	<ul style="list-style-type: none"> • Assist student to decide if goal remains the same or changes. • Collaborate with student to identify if action plan is adequate or inadequate given revised or retained goal. • Assist student to change action plan if necessary. 	<ul style="list-style-type: none"> • Self-reinforcement strategies. • Self-recording strategies. • Self-monitoring.
Do I know what I want to know?	<ul style="list-style-type: none"> • Enable student to decide if progress is adequate, inadequate, or if goal has been achieved. 	

The Student Questions are constructed to direct the student through a problem-solving sequence in each instructional phase. The solutions to the problems in each phase lead to the problem-solving sequence in the next phase. Teachers implementing the model teach students to solve the sequence of problems to construct a means-ends chain—a causal sequence—that moves them from where they are (an actual state of not having their needs and interests satisfied) to where they want to be (a goal state of having those needs and interests satisfied). To answer the questions in this sequence, students must regulate their own problem solving by setting goals to meet needs, constructing plans to meet goals, and adjusting actions to complete plans. Thus, each instructional phase poses a problem the student must solve (What is my goal? What is my plan? What have I learned?). The four questions differ from phase to phase but represent identical steps in the problem-solving sequence. That is, students answering the questions must: 1) identify the problem, 2) identify potential solutions to the problem, 3) identify barriers to solving the problem, and 4) identify consequences of each solution. These steps are the fundamental steps in any problem-solving process and they form the means-end problem-solving sequence represented by the Student Questions in each phase and enable the student to solve the problem posed in each instructional phase.

Because the model itself is designed for teachers to implement, the language of the Student Questions is not written to be understood by every student, nor does the model assume that students have life experiences that enable them to fully answer each question. The Student Questions are written in first-person voice in a relatively simple format with the intention that they are the starting point for discussion between the teacher and the student. Some students will learn and use all 12 questions as they are written. Other students will need to have the questions rephrased to be more understandable. Still other students, due to the intensity of their instructional needs, may have the teacher paraphrase the questions.

The first time a teacher uses the model with a student, she or he will read the question with or to the student; discuss what the question means; and then, if necessary, change the wording to enable that student to better understand the intent of the question. Such wording changes must, however, be made so that the problem-solving intent of the question remains intact. The Teacher Objectives within the model are objectives a teacher will be trying to accomplish by implementing the model. In each instructional phase, the objectives are linked directly to the Student Questions. These objectives can be met by utilizing strategies provided in the Educational Supports section of the model. The Teacher Objectives provide, in essence, a road map to assist the teacher to enable the student to solve the problem stated in the Student Question. The model's emphasis on using instructional strategies and educational supports that are student-directed provides another means of teaching students to teach themselves. As important as this is, however, not every instructional strategy implemented will be student-directed. The purpose of any model of teaching is to promote student learning and growth. There are circumstances in which the most effective instructional method or strategy to achieve a particular educational outcome will be a teacher-directed strategy.

Students who are considering what plan of action to implement to achieve a self-selected goal can recognize that teachers have expertise in instructional strategies and take full advantage of that expertise.

Several studies provide causal evidence of the impact of the SDLMI on enhanced student self-determination (Wehmeyer, Shogren, Palmer, Williams-Diehm, Little, & Boulton, 2012), student engagement with the curriculum (Lee, Wehmeyer, Soukup, & Palmer, 2010; Shogren, Palmer, Wehmeyer, Williams-Diehm, & Little, 2012), student academic and functional skills goal attainment (Lee, Wehmeyer, & Shogren, 2015; Shogren et al., 2012), and on raising teacher expectations for student progress (Shogren, Plotner, Palmer, Wehmeyer, & Paek, 2014). -

Conclusion

There is now clear evidence that autonomously motivated students achieve more positive school-related outcomes (Liu, Wang, & Ryan, 2016) and that students who are provided autonomously-supportive classrooms and instruction achieve more positive school and adult outcomes. As the field of psychology moves toward the implementation of strategies based upon research in positive psychology, so too is it important that educational strategies be drawn from strengths-based, positive approaches to disability (Wehmeyer, 2013; Wehmeyer & Shogren, in press). Promoting self-determination is clearly one such approach. We believe that the foundation to achieve such outcomes lies in understanding the development of self-determination (Wehmeyer, Shogren, Little, & Lopez, in press) and in implementing interventions, such as those described in this article, that promote such development.

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