

Research-Based Principles and Practices for Educating Students with Autism: Self-Determination and Social Interactions

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Abstract: Research-Based Principles and Practices for Educating Students with Autism is a text under development by members of the Division on Autism and Developmental Disabilities. The text is intended for use as a professional resource and graduate level text for preservice and inservice educators, psychologists, speech/language therapists and clinicians serving children and youth with autism spectrum disorders (ASD). To familiarize the DADD membership with the content of the text, authors of chapters in the text will present on their topical area at DADD conferences. The first such presentation occurred at the conference in Maui, Hawaii in January of 2010. The topic covered in that presentation, as presented here, was self-determination and social interactions. This article examines the issues of self-determination and students with ASD in three ways; first, we examine the need for interventions to promote self-determination for students with ASD; second, we examine extant interventions that have an empirical basis and might be beneficial to efforts to promote the self-determination of youth with ASD; third, and finally, we propose that a social ecological approach to promoting self-determination is critically important for students with ASD and, indeed, for most students, and provides a useful context in which to engage in such efforts.

Research-Based Principles and Practices for Educating Students with Autism is a text under development by members of the Division on Autism and Developmental Disabilities. The text is intended for use as a professional resource and graduate level text for preservice and inservice educators, psychologists, speech/language therapists and clinicians serving children and youth with autism spectrum disorders (ASD). By presenting an overview of the field of educating students with ASD, including practices to support students and families through the developmental stages, readers will be provided with up-to-date, clear knowledge about educating students with ASD. The

text (1) describes the evidence-base of varied practices; (2) considers education at each developmental stage, from early intervention through transition to adult living; (3) highlights major educational and therapeutic needs of children and youth with autism; and (4) considers the field from an integrated, transdisciplinary perspective.

Educational practices today are evaluated based on their relationship to sound theory, as well as on empirical evidence to support their effectiveness. This text examines the extent to which practices are tied to sound theory and evaluates the extant data base to support particular practices. The evidence-base for current practices is discussed with an eye toward advancing new practices by considering implications of recent research. In this way, the text does more than present the current state-of-the-art of education in autism, which, as a

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field, continues to hold many unanswered questions. The text takes the reader a step further by reflecting upon the evidence-base of current practice and utilizing existing information to expand and extend our existing knowledge base so that we systematically may utilize evidence-based practices and explore promising possibilities.

Distinguishing features of the book include its comprehensiveness and integrated perspective. The text considers many of the currently employed major approaches thoroughly, in detail and without bias. Each chapter has a senior author who is highly accomplished and nationally recognized for his/her work in the specific area addressed. The field is viewed through varied lenses or perspectives, so as to provide a deep understanding of (1) the history and current state of autism as a field in transition, (2) varied approaches and philosophies in educating children and youth with autism, (3) intervention throughout the developmental cycle, and (4) inter-related disciplines and how they interface in the treatment of autism.

The lens through which the text examines autism is unique in that the evidence-base for each approach is the determining factor in the evaluation of effectiveness and usefulness for treating individuals with ASD. Many existing texts advocate exclusively a particular type of treatment. This text recognizes that interventions must be selected based on scientific evidence of their effectiveness and the needs and circumstances of the learner. It also recognizes that different types of interventions lend themselves to different research methods. Authors consider findings from studies that employed single subject designs, experimental large scale studies, and qualitative methodologies. Findings are presented and analyzed in each area to enable the reader to evaluate the usefulness of practices for particular individuals and situations. The inter-relatedness of therapies and disciplines is highlighted.

Serving students with autism necessitates communication and collaboration among professionals from several disciplines, including speech/language therapists, psychologists, occupational therapists, physical therapists, physicians, and family members. The editors have brought together divergent perspectives,

theories and philosophies in order to demonstrate that scientific evidence, rather than educational orientation, must determine which practices are selected for use in particular situations. The text crosses borders of several approaches, which historically have been viewed in isolation to facilitate a transdisciplinary perspective to the education of children and youth with autism.

To familiarize the DADD membership with the content of the text, authors of chapters in the text will present on their topical area at DADD conferences. The first such presentation occurred at the conference in Maui, Hawaii in January of 2010. The topic covered in that presentation, as described subsequently, was self-determination and social interactions.

Self-Determination and Social Interactions

It is by now commonly accepted that efforts to promote the self-determination of adolescents with disabilities are a component of high quality special education services in secondary education and transition services (Wehmeyer, Abery, Stancliffe, & Mithaug, 2003; Wehmeyer et al., 2007). This is the case for several reasons. First, self-determination status has been linked to the attainment of more positive academic (Konrad, Fowler, Walker, Test, & Wood, 2007; Fowler, Konrad, Walker, Test, & Wood, 2007; Lee, Wehmeyer, Soukup, & Palmer, 2010) and transition outcomes, including more positive employment and independent living (Martorell, Gutierrez-Rechacha, Pereda, & Ayuso-Mateos, 2008; Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997) and recreation and leisure outcomes (McGuire & McDonnell, 2008), and more positive quality of life and life satisfaction (Wehmeyer & Schwartz, 1998; Lachapelle et al., 2005; Nota, Ferrari, Soresi, & Wehmeyer, 2007; Shogren, Lopez, Wehmeyer, Little, & Pressgrove, 2006).

Second, research across special education disability categories has established the need for intervention to promote self-determination, documenting that students with intellectual disability (Wehmeyer, Agran et al., 2007), learning disabilities (Pierson, Carter, Lane, & Glaeser, 2008), emotional and behavioral disorders (Carter, Lane, Pierson, & Glaeser, 2006; Pierson et al., 2008) and autism (Weh-

meyer & Shogren, 2008) are less self-determined than their non-disabled peers.

Third, teachers believe that teaching students to become more self-determined is important (Carter, Lane, Pierson, & Stang, 2008; Thoma, Pannozzo, Fritton, & Bartholomew, 2008; Wehmeyer, Agran, & Hughes, 2000) and there are numerous curricular and instructional models identified to enable them to provide this instructional focus (Test, Karvonen, Wood, Browder, & Algozzine, 2000; Wehmeyer & Field, 2007). In a meta-analysis of single subject and group subject design studies, Algozzine, Browder, Karvonen, Test, and Wood (2001) found evidence for the efficacy of instruction to promote component elements of self-determined behavior, including interventions to promote self-advocacy, goal setting and attainment, self-awareness, problem-solving skills, and decision-making skills. Cobb, Lehmann, Newman-Gonchar, and Alwell (2009) conducted a narrative meta-synthesis—a narrative synthesis of multiple meta-analytic studies—covering seven existing meta-analyses examining self-determination and concluded that there is sufficient evidence to support the promotion of self-determination as effective.

This article examines the issues of self-determination and students with ASD in three ways; first, we examine the need for interventions to promote self-determination for students with ASD; second, we examine extant interventions that have an empirical basis and might be beneficial to efforts to promote the self-determination of youth with ASD; third, and finally, we propose that a social ecological approach to promoting self-determination is critically important for students with ASD and, indeed, for most students, and provides a useful context in which to engage in such efforts.

Self-Determination and Students with Autism Spectrum Disorders

As Wehmeyer et al. (2003) noted, the term ‘self-determination’ has its roots in the philosophical doctrine of determinism. Determinism refers to the idea or proposition that all events, including human behavior and thought, are caused by events that preceded or occurred before the event. Self-determined behavior refers to human behavior that is

caused (e.g., determined) by the person as opposed to being caused by someone or something else. People who are self-determined, then, are people who make or cause things to happen in their own lives. They act volitionally (based on their own will, preferences, choices, and interests) instead of being coerced or forced to act in certain ways by others or circumstances. Wehmeyer (2005) defined self-determined behavior as “volitional actions that enable one to act as the primary causal agent in one’s life and to maintain or improve one’s quality of life” (p. 117). *Causal agency* implies that it is the person who makes or causes things to happen in his or her life; that he or she acts with an eye toward *causing* an effect to *accomplish a specific end* or to *cause or create change*.

Self-determination emerges across the life span as children and adolescents learn skills and develop attitudes that enable them to be causal agents in their lives. These attitudes and abilities are the *component elements* of self-determined behavior (Wehmeyer et al., 2003). The *essential characteristics* that define self-determined behavior emerge through the development and acquisition of these multiple, interrelated *component elements* (Wehmeyer, 2005). Although not intended as an exhaustive list, these component elements are particularly important to the emergence of self-determined behavior and form the basis for considering pedagogy to promote self-determination. These component elements include choice-making, decision-making, and problem-solving skills; goal setting and attainment skills, self-management skills; and self-advocacy and leadership skills, as well as perceptions of control and efficacy and self-awareness and knowledge.

While several characteristics of persons with ASD may impact the development of these component elements, none preclude students with ASD from developing such skills and attitudes. In fact, research clearly shows that students with ASD can, with educational supports and accommodations, acquire such skills. The unique needs of students with ASD, however, because of their characteristic differences in communication and social interaction must be considered when working to promote self-determination. Students with ASD may be at risk for simply learning the compo-

nent skills of self-determination, and practicing them in a rote manner, without fully understanding the application of these skills to their lives (Fullerton & Coyne, 1999), particularly as many students with autism have been, in essence, taught to depend on other people because they have not been provided with opportunities to engage in self-determined behavior. Wehmeyer and Shogren (2008) provided a summary of the research pertaining to the acquisition of component elements of self-determined behavior with students with ASD, and that is summarized in the following sections.

Component Elements of Self-Determined Behavior and Students with ASD

Instruction in the component elements of self-determined behavior, such as those described in this section, can be incorporated into existing interventions for students with autism. A number of core strategies identified in the literature for supporting students with ASD can also be incorporated in interventions to promote these components. For example, students with autism often interpret communications literally and have difficulty with abstract concepts; thus working to make abstract concepts concrete by providing clear definitions and examples of what does and does not constitute the behavior, along with visual depictions of the behavior (Krasny, Williams, Provencal, & Ozonoff, 2003) would better enable students with ASD to understand concepts related to these component elements.

Goal-setting and attainment. Having the skills to set and attain goals is central to one's ability to act in a self-determined manner. Within education settings, the process of promoting goal-setting skills involves working with students to help them learn to identify and define a goal clearly and concretely, develop a series of objectives or tasks to achieve the goal, and specify the actions necessary to achieve the desired outcome. Goal-setting activities can be easily incorporated into a variety of educational activities and instructional areas, as well as in educational planning.

Research suggests that students with autism tend to be more sequential in their goal-directed behavior and have difficulty engaging in multiple goal-directed activities concur-

rently, but also tend to jump from activity to activity in the process of goal attainment (Ruble & Scott, 2002). Several strategies could be utilized to address this issue: Complex goals could be broken down into smaller, sub-goals that the student could complete in a shorter amount of time, with fewer steps. Students could make a list of goals they are working towards, so that they have a concrete, visual reminder of their goals that they can easily refer to. Further, strategies to promote self-regulated behavior (discussed below) could be utilized to enable students with autism to self-monitor their progress towards their goals.

Choice-making. Choice-making involves, simply, the expression of a preference between two or more options. Opportunities to make choices should be infused throughout a student's day, as experiences with making choices 'teach' students that they can exert some control over their environment. Relatedly, research has found that when students with ASD are provided opportunities to make choices, reductions in problem behavior and increases in adaptive behaviors are observed (Shogren, Faggella-Luby, Bae, & Wehmeyer, 2004). Choice opportunities can be infused through the school day, and students can be provided opportunities to choose within or between instructional activities, with whom they engage in a task, where they engage in an activity, and so forth.

Problem solving. A problem is an activity or task for which a solution is not known or readily apparent. The process of solving a problem involves: a) identifying and defining the problem, b) listing possible solutions, c) identifying the impact of each solution, d) making a judgment about a preferred solution, and e) evaluating the efficacy of the judgment (Izzo, Pritz, & Ott, 1990). Developing the skills associated with social problem solving may be particularly difficult for students with ASD, given their characteristic difficulties with social-emotional understanding. Research with students with autism suggests that students with autism may have specific difficulties understanding social and emotional cues, which limit their ability to interact with others (Bacon, Fein, Morris, Waterhouse, & Allen, 1998; Sigman & Ruskin, 1999; Travis, Sigman, & Ruskin, 2001). If the social difficul-

ties experienced by students with ASD are a result of difficulties in understanding social and emotional cues, interventions to promote social and emotional understanding via instruction in social skills and interpersonal problem solving have the potential to mediate the social difficulties often faced by students with ASD.

There have been some strategies developed to promote social problem solving in students with ASD. Bauminger (2002) devised a social-emotional intervention to promote social cognition and social interaction in students with ASD by teaching students social and interpersonal problem solving skills. After seven months, students generated more appropriate solutions to problems faced in social situations, and initiated more social interactions with peers. Bernard-Opitz, Sriram, and Nakhoda-Sapuan (2001) developed a computer program to assist students with ASD to develop social problem solving skills. The program presented pictures or videos of people experiencing social conflicts, and then guided students through an animated problem solving process, in which students were asked to generate alternative solutions. After identifying an alternate solution, a video clip of the actors resolving the problem was presented. As students had repeated experience with the program, they generated more alternative solutions.

Decision-making. Decision-making, like problem solving, is a systematic process that involves coming to a judgment about which solution is best at a given time. Making effective decisions involves: a) identifying alternative courses of action, b) identifying the possible consequences of each action, c) assessing the probability of each consequence occurring, d) choosing the best alternative, and e) implementing the decision (Beyth-Marom, Fischhoff, Quadrel, & Furby, 1991). Research suggests that students with disabilities, including students with autism, want to be involved in decisions related to their life. For example, Ruef and Turnbull (2002) conducted a qualitative study of the perspective of adults with cognitive disabilities and/or autism on their problem behavior, and found that participants repeatedly said they wanted to have 'voice' in their lives. The participants wanted to be actively involved in decisions related to

their supports, their living arrangements, and their employment.

To support students with autism to learn decision-making skills, a number of strategies can be implemented throughout the student's educational career. Early on, students should be provided a wide array of choice opportunities, and receive instruction regarding how to make effective choices, as discussed previously. As students age, they should be provided overt training in the decision-making process. Students with ASD should also be encouraged to process the emotions associated with the decision-making process, given that this is often a process characterized by uncertainty (Beyth-Marom et al., 1991), which may be difficult for some students with ASD. By providing discrete instruction in uncertainty, the emotions associated with it, and how to evaluate alternatives even when there is no certain correct answer, students with autism may experience less anxiety in the decision-making process. The process of evaluating alternatives is also an area in which direct instruction can occur; students can be provided support to develop lists of decision options, to evaluate the risk and benefit associated with a given alternative, and to evaluate biases in their decision-making (Beyth-Marom et al.). Students often evaluate risk somewhat different than adults, perhaps because they see the excitement of risk as positive, rather than negative. However, by teaching students how to evaluate and conceptualize risk, both in terms of short-term and long-term consequences, these biases can be reduced (Wehmeyer et al., 2003).

Self-regulation and student-directed learning skills. Self-regulation is the process of setting goals, developing action plans to achieve those goals, implementing and following the action plans, evaluating the outcomes of the action plan, and changing actions plans, if the goal was not achieved (Mithaug, 1993). The skills associated with self-regulation enable us to examine our environments, evaluate our repertoire of possible responses and implement and evaluate a response (Whitman, 1990). Self-regulation involves the use of self-management skills, such as self-observation, self-evaluation, self-reinforcement, and self-instruction. Research has consistently shown that students with ASD can learn and practice these skills, with positive behavioral effects

(Koegel, Harrower, & Koegel, 1999; Koegel, Frea, & Surratt, 1994; Koegel, Koegel, & Parks, 1995).

Research has shown that interventions promoting self-management skills in students with ASD have led to increases in problem solving skills (Koegel et al., 1995), communicative behavior (Newman, Reinecke, & Meinberg, 2000), daily living skills (Sherer et al., 2001), and academic performance (Callahan & Rademacher, 1999), in addition to reductions in disruptive behavior (Mancina, Tankersley, Kamps, Kravits, & Parrett, 2000).

Instruction in self-management can focus globally on all of the involved skills (self-observation, self-evaluation, self-reinforcement, and self-instruction) or can focus specifically on one or more of the skills. Self-observation or self-monitoring involves teaching students to assess, observe, and record their own behavior. Self-evaluation involves teaching students to track their progress in achieving their goals, or evaluating the discrepancy between where they currently are on a goal or task, and where they want to be in the future. Self-reinforcement involves students in identifying and providing their own reinforcement for performance of a given behavior or achievement of a goal. Self-instruction is the process of enabling students to take the primary role in solving academic or social problems. When engaging in self-instruction, student must be able to direct themselves through the process of addressing the problem or meeting their goal. For example, Lord (1996) taught a student with autism self-instruction strategies for reducing his obsessive behaviors and for coping with frustration. The student was able to 'intervene' as soon as he began to experience obsessive or compulsive thoughts, and thus was more successful in slowing down the escalation of his problem behavior than if he had been waiting for a teacher or support person to notice and intervene.

Self-advocacy. Students with ASD need to learn the skills to advocate on their own behalf. A first step to enabling students to express their wants and needs during these meetings is educating students about their rights and responsibilities in these areas. When teaching students how to advocate for themselves, the focus should be on teaching students how to be assertive, how to effectively

communicate their perspective (either verbally or in written or pictorial form), how to negotiate, how to compromise, and how to deal with systems and bureaucracies. Students need to be provided real-world opportunities to practice these skills. This can be done by embedding opportunities for self-advocacy within the school day, by allowing students to set up a class schedule, work out their supports with a resource room teacher or other support provider, or participate in IEP and transition meetings.

Perceptions of efficacy and control. In recent years, increased attention has been paid to the role of motivational factors in the behavior of students with ASD, based on the hypothesis that diminished motivation, resulting from repeated failure experience, may play a role in poor performance outcomes (Koegel et al., 2001). Interventions that seek to improve motivation tend to result in improvements in language, academic, and social functioning, supporting the hypothesis that by increasing student motivation, significant changes in the behavior of students with ASD are observed (Koegel et al., 2001).

People who have positive perceptions of their efficacy believe they can perform the behavior required to achieve a desired outcome (Bandura & Cervone, 2000). Research has shown that students with disabilities tend to have less adaptive perceptions of efficacy and outcome expectations than do students without disabilities (Wehmeyer, 1994). The same has been found concerning the perceptions of students with disabilities about their ability to exert control over their environment. People who believe they have the ability to exert control over their lives and outcomes tend to be described as having an internal locus of control; whereas people who perceive others are largely control their lives and outcomes are described as having an external locus of control (Rotter, 1966). Research has shown that students' perceptions of control and efficacy interact with academic, social, and behavioral outcomes, with students who have more adaptive perceptions of their abilities in each of these areas experiencing more positive outcomes (Hagborg, 1996; Ollendick, Green, Francis, & Baum, 1991).

To promote positive perceptions of control, it is important to support students in under-

standing the differences between outcomes that result from ability, effort, and chance. Young children tend to attribute their outcomes to effort, and do not account for ability or chance; however with age students typically begin to distinguish between effort, ability, and chance, thus recognizing what outcomes they can and cannot control. However, these concepts may be difficult for students with ASD to comprehend without specific instruction and practice in understanding these concepts. By providing real world examples these largely abstract ideas can be made more concrete for students with ASD, helping them understand their ability to exert control over their environment.

Finally, both teacher and classroom characteristics can influence students' perceptions of efficacy and control. Overly controlling environments can diminish students' perceptions of their ability to exert control and engage in actions that enable them to develop adaptive efficacy expectations. It is important for teachers to work to empower students to be active participants in their classrooms.

Self-awareness and self-knowledge. For students to become more self-realizing, they must possess a reasonably accurate understanding of their strengths, abilities, unique learning and support needs, and limitations. Further, they must know how to utilize this understanding to maximize success and progress. However, like perceptions of efficacy and control, self-awareness and knowledge is not something that can simply be taught through direct instruction. Instead, students acquire this knowledge by interacting with their environment. Unfortunately students with disabilities often learn to identify what they *cannot* do instead of what they can. This skews students' perceptions of themselves, and influences how they interact with people and systems they encounter.

Faherty (2000) developed an approach to guide children and youth with ASD through the process of developing an understanding of their strengths, their abilities, and the impact of autism on their lives. The process has a number of activities that encourage students to think about their strengths and abilities, and contains activities to support students to develop and reflect on how they learn, their sensory experiences, their artistic and techno-

logical abilities, their social and communication skills, their thoughts, and why they sometimes feel upset. It also helps students reflect on the people in their lives, including their school experiences. Finally, the approach provides students with facts about ASD. The focus is on promoting adaptive self-awareness and supporting the student in developing both understanding of autism and its limitations, but also their abilities and strengths as a person.

A Social-Ecological Approach to Promoting Self-Determination

The above literature review suggests that instruction to promote self-determination is important for students with disabilities, and that students with ASD may benefit not only from such instruction, overall, but also to targeted interventions that address areas such as social problem-solving skills or goal setting and attainment skills. In fact, the issues pertaining to communication and social interactions experienced by most students with ASD necessitate, we would suggest, taking a social-ecological approach to promoting self-determination.

Social-ecological models of intervention emphasize the complex interactions that occur between person- and environment-specific variables and that account for significant changes in human behavior and enhanced human functioning. Walker et al. (2010) suggested that this approach is one of the few intervention models that has the necessary breadth for conceptualizing the complex and reciprocal environmental and personal variables and dynamics required to effectively design and evaluate interventions to promote self-determination.

The emphasis in social-ecological models of interventions on enhancing both the capacity of the person and modifying the context or environment to enable success has particular relevance for students with ASD. It should be noted that self-determination always has a social context—by that we mean that self-determination refers to self versus other-determined action. It stands to reason, then, that social variables play an important role in mediating the effect of interventions to promote self-determination. In fact, the “other” deter-

minant in the self- vs. other-determination equation is almost always other people or circumstances in which the “will” of other people comes into play. Walker et al. (2010) proposed three forms of social behavior that serve as mediator variables to the promotion of self-determination: *social effectiveness*, *social capital* and *social inclusion*.

Social effectiveness is one’s ability to use social skills, strategies, and behavioral competencies to achieve preferred quality of life outcomes and to access key opportunities (making friends, recruiting social support networks, joining groups, managing one’s life and daily routines, negotiating, etc.). It’s worth elaborating, at this point, on the relationship between social effectiveness and social skills, particularly in the context of promoting self-determination. Social skills are a set of skills needed to get along with others used by most people every day in the community, workplace, and school. Acting the way people think you should act, getting along with others, making and keeping friendships, and knowing what to say and how to say it are all examples of social skills. Frequently people are described as *being social* or not having good social skills. Whenever two or more people are together, the presence or lack of social skills helps define the relationship (Smith, Gartin, & Murdick, in press).

Being able to get along with others and establish friendships is a large part of social skills. Friendship development—a “natural and essential part of human existence—involves a series of complicated social interactions” (Morris, 2002, p. 67). Friendships are important at all ages, beginning in early childhood and lasting throughout adult life. The nature of friendships changes over time. Preschool children often develop friendships equally with children of both sexes. During elementary school same-sex friendships are more typical. Also, friends are usually from a similar age group. As children get older friendship is expanded to a wider age range and to both sexes (Slavin, 2009).

Social skills are very important throughout a person’s life; however, during the school years their importance can be critical with school success being minimal if the student has poor social skills (Smith & Gilles, 2003). At the secondary level, social skills become

even more important because friendships and other social activities may be more important than parental relationships and approval (Pollock, Miller, & Smith, in press). Social skills impact all areas during secondary school, including popularity. Boutot (2007) found that students’ popularity among peers was related to their level of social skills. School clubs, athletic events, dances, parties, and daily interacting with other students are examples of the important social activities of students in secondary schools.

Unfortunately, while social skills are important for success in school, community living, and work, students with disabilities commonly have difficulty in social skills. Studies have found social skill problems in students across disability categories, but of course, social interaction impairments are characteristic of students with ASD (Morris, 2002; Welton et al., 2004). Students with disabilities experience difficulties in social skill for a variety of reasons, including a lack opportunities to develop social skills, not paying attention to their environment where they could observe and model appropriate social skills, and even having emotional problems that interfere with the development and use of appropriate social skills (Smith et al., in press).

Regardless of the reasons students with disabilities display problems in social skills, the impact can be detrimental to the eventual academic and future success of these students and, of course, to the development of self-determination, since these issues of social skills leading to social effectiveness overlap with issues related to social problem solving and the development of self-determination.

The second form of social behavior referenced in the model, *Social capital*, refers to the networks of social ties, supports, relationships, trust, cooperation, affiliations and social-behavioral reciprocity that enhance one’s life quality, lead to improvements in life chances, and satisfy basic psycho-social needs. *Social inclusion* refers primarily to the presence and societal acceptance of people with disabilities within school, work and community settings. A social-ecological approach to promote self-determination that emphasizes social effectiveness, social capital, and social inclusion as mediating variables provides a powerful frame within which to consider interventions to pro-

A Social Ecological Approach to Promote Self-Determination

What Variables are Conceptually Related to Self-Determination?

- | | |
|--|--|
| <p style="text-align: center; margin: 0;">Person-Specific Variables</p> <ol style="list-style-type: none"> 1. Moderating variables 2. Motivational variables 3. Causal capacity variables 4. Agentic capacity variables 5. Adaptive behavior variables | <p style="text-align: center; margin: 0;">Ecological-Specific Variables</p> <ol style="list-style-type: none"> 1. Microsystem variables 2. Mesosystem variables 3. Exosystem variables 4. Macrosystem variables |
|--|--|



What Intervention Practices are Important According to these Variables?

- | | |
|---|--|
| <p style="text-align: center; margin: 0;">Person-Specific Intervention Practices</p> <ol style="list-style-type: none"> 1. Promote goal setting, decision-making, problem solving, and related causal capacity skills. 2. Promote self-regulation, self-advocacy, coping, self-management and other agentic capacity skills. 3. Promote independent living, self-sufficiency, personal-social responsibility, social competency, and other adaptive behavior skills. 4. Link interventions to preferences to enhance motivation. | <p style="text-align: center; margin: 0;">Ecological-Specific Intervention Practices</p> <ol style="list-style-type: none"> 1. Educate family members, professionals, support staff, and general public on practices to promote self-determination 2. Promote choice-making opportunities. 3. Maximize experiences leading to identification of preferences. 4. Maximize opportunities to utilize and practice person-specific skills. 5. Ensure access via universal design 6. Design funding and systems to promote greater choice making and consumer control. |
|---|--|



What Mediating Variables Impact the Efficacy of These Intervention Practices?

- Mediating Variables**
1. Social effectiveness
 2. Social capital
 3. Social inclusion



What Intervention Practices are Important to Promote these Mediating Variables?

- Intervention Practices**
1. Promote social effectiveness skills
 2. Facilitate friendship and social networking opportunities
 3. Promote school, community, and work inclusion



What Outcomes Result from Implementation of Interventions to Promote Self-Determination?

- | | | |
|---|--|----------------------------------|
| Enhanced Self-Determination | Improved Quality of Life Outcomes | Enhanced Social Inclusion |
| <ol style="list-style-type: none"> 1. Access to community resources and supports 2. Improved ability to manage one's daily life 3. Greater community participation/acceptance 4. Emotional/material/physical well-being 5. Breadth and variety of daily activities | | |



Figure 1. A social ecological approach to promote self-determination.

mote the self-determination of students with ASD. Figure 1 depicts the social-ecological approach to promoting self-determination proposed by Walker et al. (2010). This approach is grounded in a conceptual foundation of self-determination as a form of human agentic behavior, and the first level of the model depicts person-specific and environment specific variables that are derived from theory and research as related to self-determination. The second level of the figure identifies classes of person-specific and environment-specific intervention practices that are important as derived from the foundation of theory and research. The third and fourth levels of the model depict the mediating variables that impact the efficacy of the interventions practices identified in the second level, as well as the practices that are important to take advantage of the mediating effect of these variables in intervention. The final level depicts the expected outcomes from interventions to promote self-determination using the social-ecological approach (levels 2 through 4).

Conclusion

Though, as shown in the above discussion and review, there is an emerging evidence base for practices to promote the self-determination of students with ASD, there remains much to be done with regard to both research and intervention development and evaluation. It seems clear that such a focus is important to promote better educational and life outcomes for students with ASD and that there are particular areas of instruction, such as goal setting and attainment, problem solving, and decision making, that warrant particular attention and might hold particular benefit for them.

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