Student Self-Determination: A Preliminary Investigation of the Role of Participation in Inclusive Settings

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Abstract: Little is known about the effects of participation in inclusive settings on student self-determination. In this exploratory study, we examined the association between students’ inclusive school and community activities and the self-determination skills of active involvement in IEP activities and use of selected self-determination strategies. Forty-seven students with severe intellectual disability from three high schools participated; one high school was undergoing state takeover for consistently failing to make AYP and served students living in a high-poverty community. Findings revealed significant differences across schools in student participation in general education and school- and community-based transition activities, which were associated with level of self-determination skill use. Students attending schools offering more inclusive activities reported significantly more use of six of nine self-determination skills. Active student IEP participation was reported to be low across all schools. We discuss implications of findings for future research and practice.

Accumulating evidence has suggested the role of self-determination in promoting positive academic, social, and adult outcomes for students with intellectual and developmental disabilities (e.g., Fowler, Konrad, Walker, Test, & Wood, 2007; Lachapelle et al., 2005; Martorell, Gutierrez-Recacha, Perda, & Ayuso-Mateos, 2008; Wehmeyer & Palmer, 2003). For example, Lachapelle and colleagues (2005) reported that self-determination status related positively to quality of life for adults with intellectual disability. Wehmeyer and Palmer (2003) found a positive relation between self-determination and post-school outcomes (e.g., employment and independent living) for students with intellectual and learning disabilities. Active involvement by students in their individualized education programs (IEPs) and transition planning is valued as a means to promote students’ self-advocacy, self-determination, and positive post-school outcomes, and provides a measure of students’ level of self-directed learning (Martin, Van Dycke, Christensen et al., 2006; Test et al., 2004; Wehmeyer, Palmer, Soukup, Garner, & Lawrence, 2007). The importance placed on students’ involvement in their own educational decision making was established in the Individuals with Disabilities Education Act (IDEA) Amendments of 1997 mandating the inclusion of students in their IEP meetings when transition planning is being discussed and requiring educational decisions to be based on students’ declared interests and preferences—a further example of self-determined behavior.

Research suggests that exercise of self-determination skills (e.g., choice making, problem solving, self-advocating) and active involvement in transition planning is positively related to skill instruction received and opportunity to practice skills in inclusive settings (e.g., Wehmeyer et al., 2007). Early studies in residential settings for adults with intellectual disability revealed that, in general, residents had little opportunity for making choices or decisions or advocating for themselves in their...
daily lives (e.g., Kishi, Teelucksingh, Zollers, Park-Lee, & Meyer, 1988; Wehmeyer & Meltzer, 1995). Subsequent studies examined restrictiveness of residential environment in relation to opportunities to practice self-determination. In general, more inclusive settings that provided supports and accommodations were associated with greater opportunities for choice, decision making, and promotion of self-determination for adults with intellectual disability (e.g., Robertson et al., 2001; Wehmeyer & Bolding, 2001; Wehmeyer & Garner, 2003). We found only one published study, however, in which self-determination skills were taught to adults in a residential setting. Specifically, Hughes (1992) taught four adults with severe intellectual disability living in a group home to solve problems related to daily living skills by learning to direct their own performance.

In contrast, a sizable number of investigations of the effects of instruction on self-determination and active involvement in educational planning has been conducted in school settings (cf. Carter, Owens, Trainer, Sun, & Swedeen 2009; Chambers et al., 2007; Shogren et al., 2010). Several researchers have demonstrated the effectiveness of published curricula in promoting positive measures of self-determination (e.g., Cross, Cooke, Wood, & Test, 1999; Hoffman & Field, 1995; Powers et al., 2001; Zhang, 2001b). For example, Cross et al. (1999) found that introducing the ChoiceMaker curriculum (Martin & Marshall, 1995) to students with intellectual disability to teach choice making and goal setting resulted in increased scores on The Arc’s Self-Determination Scale (Wehmeyer & Kelchner, 1995).

Research has also examined the effects of instruction to increase students’ active involvement in transition planning and the IEP process, primarily with students with high-incidence disabilities (e.g., Allen, Smith, Test, Flowers, & Wood, 2001; Martin, Van Dycke, Christensen et al., 2006; Mason, McGahee-Kovac, Johnson, & Stillerman, 2002). For example, Martin, Van Dycke, Christensen et al. (2006) used the Self-Directed IEP curriculum (Martin, Marshall, Maxson, & Jerman, 1997) to teach secondary special education students (9% with intellectual disability) to increase their speaking, goal setting, and leadership roles in their IEP meetings. Studies show, however, that without instruction and support, few students are actively involved in the IEP process. Martin, Van Dycke, Greene et al. (2006) reported that, without training, secondary students at IEP meetings generally talk only 3% of the time. Secondary students in Agran and Hughes’s (2008) study likewise self-reported having received little instruction and assuming only a minimal role at their IEP meetings.

However, few investigations in schools have examined inclusiveness of setting in relation to self-determination skills (Shogren, Bovaird, Palmer, & Wehmeyer, 2010). Zhang (2001a) asked general and special education teachers to rate how often students with mild intellectual disability demonstrated 13 self-determination behaviors (e.g., making choices, setting goals, self-advocating) in their respective classrooms. Special versus general education teachers reported higher rates of self-determination behavior, suggesting that special education settings are more conducive to self-determination than are general education environments. However, Zhang suggested that teacher bias or expectations may have influenced results because special education teachers are more likely to be aware of the 1997 IDEA mandate to address students’ interests, preferences, and choices in educational programming. Unfortunately, Zhang did not report actual opportunities or activities that may have related to exercising self-determination in either setting. Further, student perspective on opportunity to exercise self-determination (e.g., making choices) across settings was not sought.

Carter et al. (2009) asked special education teachers of high school students with severe intellectual and developmental disabilities to use the AIR Self-Determination Scale (AIR; Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994) to rate opportunity to engage in and demonstration of self-determination behaviors at school. The AIR provides examples of opportunities for self-determination for each of six questionnaire items; however, examples relate only to teachers’ provision of opportunities that could influence self-determination. To illustrate, the example for the goal-setting item is “Troy’s teachers let him know that he is responsible for setting his own goals to get his needs and wants met.” Therefore, the AIR asks teachers to rate their own
actions in providing opportunities for students to practice self-determination, which could lead to inflated scoring. Indeed, teachers in Carter et al.’s (2009) study rated opportunities for self-determination as sometimes to almost always available at school, although they reported that students almost never to sometimes demonstrated self-determined behaviors. However, no evidence was provided by the authors to corroborate teacher report; therefore, it is not known to what extent opportunities actually existed in school settings. In addition, Carter et al. did not provide student input on opportunities to practice self-determination skills because of concerns with the validity of responses of students with severe intellectual disability.

This study is a preliminary investigation of the association of level of participation in inclusive activities in school and community and students’ reported self-determination skill use. As argued by Walker et al. (2011), “the degree to which one is socially included affects one’s opportunities to engage in self-determined actions; it also impacts the experiences in which one learns about individual preferences, interests, wants, needs, and desires” (p. 15). Walker and colleagues further argued that research (e.g., Wehmeyer et al., 2007) clearly shows, as compared to more restrictive settings and experiences, inclusion in community and school provides greater opportunities to make choices, express preferences, set goals, and become more self-determined. However, participation in inclusive settings and activities has not been investigated in relation to self-determination in school settings. Our hypothesis was that participation in more inclusive school and community activities would be associated with greater self-determination skill use.

In addition, we sought to extend the literature on self-determination and student involvement in educational programming by addressing limitations of previous studies of self-determination in school settings. First, because students from low-income communities rarely have been included in investigations of self-determination, we included a high school serving high-poverty youth in our study sample. Second, participants in previous studies investigating self-determination in both residential and school settings were largely White (e.g., Carter et al., 2009; Shogren et al., 2007; Wehmeyer & Meltzer, 1995), whereas the majority of our participants was from groups underrepresented in the disability literature (e.g., Blacks and Hispanics).

Third, rather than include participants with less intense disabilities (e.g., learning disabilities or mild intellectual disability), as in the majority of studies investigating self-determination and IEP involvement (cf. Test et al., 2004), students in our study had severe intellectual disability. Fourth, instead of querying teachers with respect to students’ active IEP involvement and self-determination (e.g., Zhang, 2001a), we interviewed students directly to obtain their perspective on IEP involvement and engagement in self-determination behaviors. Last, to address the concerns of Carter et al. (2009) and others with respect to validity of responses of people with severe intellectual disability and their tendency to acquiesce when queried, we introduced a novel methodological feature by asking participants to provide an example when a response was affirmative. If the example and response did not match in meaning, the response was invalidated. Retained responses provided rich illustrations of self-determination use as reported by students themselves.

**Method**

**Settings**

Students from three high schools located in a large urban school district of 78,000 students in southeastern U.S. participated in the study. We selected these three high schools because they represented geographically and demographically diverse areas of the school district. School A was purposely chosen because we wished to sample the self-reported self-determination skills of students attending an under-resourced, economically challenged high school serving students from a high-poverty community. In contrast, students attending Schools B and C were from more middle-income communities (see below). Further, unlike the other two schools, School A was being taken over by the state due to a 53% dropout rate and failing to make Annual Yearly Progress (AYP) on state exit exams. School A had also been identified as a segre-
gated, high-need “dropout factory” (Balfanz & Legters, 2004), whereas Schools B and C were in good standing with respect to graduation rates and exit exam scores.

School A enrolled 1070 students, of which 81% were Black, 16% White, and 3% Hispanic or Asian; 74% of students qualified for free or reduced lunch. The majority of households (56%) in the community were single-parent and 42% had an income of less than $25,000. In comparison, free or reduced lunch rates at Schools B and C were 41% and 53%, respectively. Majority student populations at these schools were 53% Black (40% White; School B) and 52% Black (24% White, 20% Hispanic; School C). Single-parent households in the communities served by these schools were 28% (School B) and 30% (School C), and household incomes of less than $25,000 were 27% (School B) and 17% (School C). Because preliminary Pearson Chi-square tests revealed significant differences across demographic characteristics of School A compared to each of Schools B and C when analyzed separately (i.e., students’ race/ethnicity < .001, graduation rate < .001, free/reduced lunch status < .001, single-parent households < .001, household income < .001), for all subsequent analyses, we compared School A against Schools B and C combined.

### Table 1: Participation in General Education and Transition Activities

<table>
<thead>
<tr>
<th>No. of class periods</th>
<th>School A</th>
<th>School B-C</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total participants</td>
<td>19</td>
<td>28</td>
<td>&lt; .001*</td>
</tr>
<tr>
<td>In general education classes (daily)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>15 (79)*</td>
<td>8 (29)</td>
<td></td>
</tr>
<tr>
<td>1 class period</td>
<td>3 (16)</td>
<td>5 (18)</td>
<td></td>
</tr>
<tr>
<td>2 or more class periods</td>
<td>1 (5)</td>
<td>15 (54)</td>
<td></td>
</tr>
<tr>
<td>In school-based transition activities (daily)</td>
<td></td>
<td></td>
<td>&lt; .001*</td>
</tr>
<tr>
<td>None</td>
<td>16 (84)</td>
<td>11 (39)</td>
<td></td>
</tr>
<tr>
<td>1 class period</td>
<td>2 (11)</td>
<td>1 (4)</td>
<td></td>
</tr>
<tr>
<td>2 or more class periods</td>
<td>1 (5)</td>
<td>16 (57)</td>
<td></td>
</tr>
<tr>
<td>In community-based transition activities (weekly)</td>
<td></td>
<td></td>
<td>.007*</td>
</tr>
<tr>
<td>None</td>
<td>11 (58)</td>
<td>11 (39)</td>
<td></td>
</tr>
<tr>
<td>1 class or less per week</td>
<td>8 (42)</td>
<td>6 (31)</td>
<td></td>
</tr>
<tr>
<td>2 or more classes per week</td>
<td>0 (0)</td>
<td>11 (39)</td>
<td></td>
</tr>
</tbody>
</table>

*Note. *p* < .01.

*a* Number and percentage of participants. School A is compared against Schools B-C combined.

### Participation in Inclusive Settings

In addition, extensive direct observation by the authors in these high schools prior to the current study indicated that participation in inclusive school- and community-based activities by students with severe disabilities varied considerably for School A students versus students attending Schools B and C. To confirm our observations, we compared amount of time in and type of general education classes attended, and amount of time participating in transition-related activities (e.g., in-school jobs, vocational classes, community work experiences) as drawn from school records. We used Pearson Chi-square tests in SPSS (*p* < .01) to compare findings.

Table 1 displays participants’ enrollment in general education classes and involvement in school- and community-based transition activities. Significant differences were found using Pearson Chi-squared tests for number of class periods in (a) general education, (b) school-based transition activities, and (c) community-based transition activities for School A students versus School B-C students combined. Only four of the 19 participating students in School A attended one or more general education classes daily outside their self-contained classes. Similarly, only three students from School A were enrolled in one or more class...
periods per day of school-based transition activities. Only eight (42%) of School A’s participants spent up to one class period per day in transition activities in the community. On the other hand, 15 of 28 students in Schools B-C attended two or more general education classes per day; five attended one class daily. Over half (n = 16) of School B-C participants engaged in two or more class periods of school-based transition activities daily, and over one third (n = 11) spent two or more class periods daily in community-based transition activities.

In addition, a two-tailed t-test (p < .05) for the combined categories of enrollment in general education and school- and community-based transition activities was significant, t(45) = 7.88, p < .001, with a mean of .89 (SD = 1.05) for School A versus a mean of 3.43 (SD = 1.10) for Schools BC where none = 0 and two or more classes per week = 2. The effect size was large (Cohen’s d = 2.35).

Based on our preliminary analyses across School A compared to Schools B-C, we determined that proceeding with our investigation of students’ participation in the IEP process and self-determination skill use was justified, as follows.

Participants

Participants (N = 47) were enrolled in special education programs for students with intellectual disability that emphasized functional academics and employment skills. Participant selection criteria were: (a) students had an Individualized Education Program (IEP) and received special education services in classes for moderate and severe intellectual disability, (b) students had moderate to extensive support needs as documented by school records, (c) students could respond verbally to spoken questions in four-to-five word phrases and follow one- to two-part directions, and (d) written parental and student consent was obtained. Students meeting these criteria were 19 of 38 students (School A), 14 of 25 (School B), and 14 of 41 (School C) enrolled in these classes. Students excluded were those who did not communicate verbally (e.g., used gestures) and those with limited support needs (e.g., only monitoring or verbal prompts needed to complete daily living skills independently). Participants’ ages ranged from 14–21 years (M = 17) and 25 of 47 students were female. Participants at School A were 16 Blacks and three Whites; at School B, five Blacks and nine Whites; and at School C, eight Blacks, four Whites, and two Hispanics.

Instruments and Administration

Student Self-Determination Survey (SS-DS). We developed the Student Self-Determination Survey (SS-DS) based on an extensive review of literature in self-determination and student involvement in the IEP process. The SS-DS comprised 18 interview items (17 forced-choice questions with requests to give examples and one open-ended question) related to: (a) involvement in the IEP process (n = 8; e.g., Agran, Snow, & Swamer, 1999; Martin, Greene, & Borland, 2004; Test et al., 2004) and (b) use of self-determination strategies, such as problem-solving (n = 9; e.g. Agran & Hughes, 2008; Wehmeyer, Agran, & Hughes, 2000). A final open-ended question asked students to identify their post-school goals (e.g., Benz, Lindstrom, & Yovanoff, 2000). A draft instrument was field-tested for clarity of wording among five research staff and 17 racially and ethnically diverse high school students with severe intellectual disability; revisions in wording were incorporated into a final instrument. Cronbach’s alpha for the SS-DS was .82 (18 items, 54 respondents with severe disabilities).

The survey was conducted as individual interviews by graduate students in special education by following a written script (Agran & Hughes, 2008) to ensure consistency in administration. Interviewers read the questions to each participant individually in a quiet area of the classroom, providing clarification or rewording as needed to promote comprehension. Participants were asked to identify if and how often they engaged in IEP-related behavior (e.g., attending IEP meetings) or self-determination skill, such as goal setting. If they responded affirmatively, they were asked to describe an occurrence as an illustration of when they had used the skill. To control for acquiescence as is characteristic of individuals with severe intellectual disability, if, after probing for understanding, participants’ examples did not match their response, affirma-
tive responses were invalidated. As interviews were conducted, interviewers recorded participants’ responses on the interview protocol.

**Data Analysis**

Data analysis was comprised of the following four steps: First, students’ educational programming and participant responses were numerically coded and tabulated. Descriptive statistics were calculated for both data sets using Pearson Chi-square tests in SPSS. To control for random significance due to the number of descriptive comparisons (18), the \( p \)-value of the Chi-square analyses was set at .01. Second, because school and community demographic characteristics differed significantly for School A when compared to each of Schools B and C (see Setting), we compared School A findings against School B-C combined responses, as previously indicated. Third, upon visually examining histograms to assure normality of the data, we performed two \( t \)-tests to compare the mean summative responses of School A participants against the combined mean summative responses of School B-C participants. We compared students’ (a) reported level of involvement in their IEP process and (b) reported use of self-determination strategies. We set the \( p \)-value at .05 for both hypothesis-based comparisons and also calculated effect sizes. Fourth, we combined student-reported qualitative statements of their self-determination skill use and chose representative examples to illustrate findings.

**Results**

Findings are displayed in Tables 2 and 3, in which responses for School A are compared to combined responses for Schools B-C. Representative examples of students’ self-reported statements in response to questions on the SS-DS are included below.

**Participation in the IEP Process**

**Overall IEP participation.** Students’ self-reported participation in the IEP process in response to SS-DS questions is shown in Table 2. Low participation was reported across participants and schools for all phases of the IEP process queried, revealing no significant differences in responses for School A compared to combined School B-C responses. Less than half of participants across all schools (\( n = 21 \)) reported even knowing what an IEP was and only five students (School A = 0) reported leading their IEP meetings, although two-thirds (\( n = 31 \)) did report attending their meetings. When asked to tell what an IEP was, one student from School A said, “It’s a record for how you’re doing.” A School C participant responded that “an IEP is like a place, a meeting. They ask a couple of questions, like what you want to do, what you want to work at, and you have to tell them what, and where you want to work at once you leave out of this school.” Another School C participant stated, “It is when you get the chance to talk about what you need, your goals, and what you need to work on your need.”

When asked to tell about an IEP meeting he or she had attended, a School A student reported, “I sit in them. They talk about my reading skills, math skills, and what I will do after graduation.” Similarly, a student from School B said, “They talked about me. They talked about school.” Just over a third (\( n = 17 \)) of all participants reported knowing what their IEP goals were, while two-thirds (\( n = 31 \)) said they never read their IEPs. Those reporting to know their IEP goals gave examples, primarily related to academic performance. For example, one student attending School A said, “Working on my reading and getting better at math,” while a School B student stated, “Do good in subjects, pass, and get As in classes.”

Only 12 students reported ever evaluating their progress on their IEP goals, although seven students across Schools B-C reported evaluating their goals once a week (School A = 1) or daily (School A = 0). Only 40% (\( n = 19 \)) of participants reported ever discussing their IEP goals with parents or family, although nine students across Schools B-C reported doing so daily or weekly (School A = 2). Similarly, only 28% (\( n = 13 \)) of participants reported ever discussing IEP goals with teachers. Examples of IEP goal discussion primarily related to IEP meetings. For example, one School A student remarked that she discussed her IEP goals with her teachers “when we have an IEP meeting with my mom.”
Statistical analysis of IEP participation. A two-tailed t-test (p < .05) revealed no significant statistical difference between means of the cumulative responses to questions about participation in the IEP process between School A and Schools B-C combined, t(45) = 1.44, p = .158 with M = 3.05, SD = 2.34 (School A) versus M = 4.46, SD = 3.82 (Schools B-C), where no = 0 and yes = 1; never = 0 and daily = 3.

Self-Determination Skills

Table 3 shows findings for questions on the SS-DS related to self-determination skills. School A participants reported significantly less (p < .01) frequent use of six of nine self-determination skills: specifically, self-advocacy (How often do you speak up for yourself?), choice making (How often do you make choices by yourself?), self-reinforcing (How often do you tell or reward yourself that you did well when you finish a task?), self-monitoring (How often do you count the number of times you perform a task?), self-evaluating (How often do you compare how well you are doing now with how well you did in the past?), and problem solving (How often do you solve problems by yourself at school, work, or home?) than did students attending Schools B-C combined. At the same time, similarities across schools were evident in examples of use of self-determination skills provided by students, as follows.

Self-advocating occurrences (Question 10) reported by students across schools primarily related to defending themselves in social situations or from bullying. Examples included “When someone says you did something and you didn’t, you have to say ‘No,’” “didn’t” (School A); “Yeah, with bullies—two boys that I’m not even scared of—used to be a little girl but not now” (School B). Students’ examples of making choices by themselves (Question 11) generally related to daily life outside school, such as “I make choices to listen to my
CD” (School C). Self-reinforcing (Question 12) reportedly occurred in response to both school (e.g., “When I did well and made the honor roll, I told myself ‘Good job’” [School A]) and outside school events (e.g., “I say ‘Be cool’ when I did good playing soccer” [School C]). Students reported that they self-monitored (Question 13) primarily when exercising “I count when I’m on a track—I got to do five laps” (School A) or engaging in community-based job training “I count the number of tables I wash” (School C). Self-evaluating (Question 15) was reported to occur in relation to academic or work performance (e.g., “In the past I couldn’t read and write and now I can help people when they are sick or hurt” [School C]) and personal interactions (“I’m getting along with my family better now” [School B]). Problem-solving examples generally were in response to outside school events,

### Table 3

**Self-Determination Skill Use**

<table>
<thead>
<tr>
<th>School</th>
<th>Never</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>All of the time</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. How often do you set your own goals in school, not with your parents/guardians? (goal setting)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.069</td>
</tr>
<tr>
<td>A</td>
<td>13 (68)*</td>
<td>3 (16)</td>
<td>2 (11)</td>
<td>1 (5)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>9 (36)</td>
<td>3 (12)</td>
<td>4 (16)</td>
<td>9 (36)</td>
<td></td>
</tr>
<tr>
<td>10. How often do you speak up for yourself? (self-advocating)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.002*</td>
</tr>
<tr>
<td>A</td>
<td>11 (57)</td>
<td>2 (11)</td>
<td>2 (11)</td>
<td>4 (21)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>2 (7)</td>
<td>12 (44)</td>
<td>3 (11)</td>
<td>10 (37)</td>
<td></td>
</tr>
<tr>
<td>11. How often do you make choices by yourself? (choice making)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.003*</td>
</tr>
<tr>
<td>A</td>
<td>8 (42)</td>
<td>8 (42)</td>
<td>2 (11)</td>
<td>1 (5)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>3 (12)</td>
<td>4 (16)</td>
<td>8 (32)</td>
<td>10 (40)</td>
<td></td>
</tr>
<tr>
<td>12. How often do you tell or reward yourself that you did well when you finish a task? (self-reinforcing)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.005*</td>
</tr>
<tr>
<td>A</td>
<td>11 (58)</td>
<td>4 (21)</td>
<td>0 (0)</td>
<td>4 (21)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>3 (11)</td>
<td>8 (30)</td>
<td>4 (15)</td>
<td>12 (44)</td>
<td></td>
</tr>
<tr>
<td>13. How often do you count the number of times you perform a task? (self-monitoring)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.002*</td>
</tr>
<tr>
<td>A</td>
<td>16 (84)</td>
<td>3 (16)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>8 (30)</td>
<td>7 (26)</td>
<td>6 (22)</td>
<td>6 (22)</td>
<td></td>
</tr>
<tr>
<td>14. How often do you tell yourself how to do a job or task? (self-instructing)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.016</td>
</tr>
<tr>
<td>A</td>
<td>11 (58)</td>
<td>6 (32)</td>
<td>1 (5)</td>
<td>1 (5)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>5 (19)</td>
<td>8 (31)</td>
<td>2 (8)</td>
<td>11 (42)</td>
<td></td>
</tr>
<tr>
<td>15. How often do you compare how well you are doing now with how well you did in the past? (self-evaluating)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.004*</td>
</tr>
<tr>
<td>A</td>
<td>15 (79)</td>
<td>2 (11)</td>
<td>1 (5)</td>
<td>1 (5)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>7 (37)</td>
<td>5 (19)</td>
<td>4 (15)</td>
<td>11 (41)</td>
<td></td>
</tr>
<tr>
<td>16. How often do you solve problems by yourself at school, work, or at home? (problem-solving)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.002*</td>
</tr>
<tr>
<td>A</td>
<td>9 (47)</td>
<td>8 (42)</td>
<td>2 (11)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>2 (8)</td>
<td>9 (36)</td>
<td>4 (16)</td>
<td>10 (40)</td>
<td></td>
</tr>
<tr>
<td>17. How often do you make decisions for yourself? (decision making)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.165</td>
</tr>
<tr>
<td>A</td>
<td>7 (37)</td>
<td>7 (37)</td>
<td>2 (11)</td>
<td>3 (16)</td>
<td></td>
</tr>
<tr>
<td>B-C</td>
<td>4 (15)</td>
<td>7 (37)</td>
<td>4 (15)</td>
<td>11 (42)</td>
<td></td>
</tr>
</tbody>
</table>

*Note. *p < .01.

Frequency and percentage of responses. Variation in number of responses (range = 44–46) is due to responses being invalidated if no example was provided or example did not match response. School A is compared against Schools B-C combined.
such as losing a house key (e.g., “My mom told me she’d leave the key under the trash can and it wasn’t there so I had to call my mom and she had to leave work” [School A]) or challenges at home (e.g., “When there are problems at home, it’s very hard to study during it. Had to ask Mom to help with sister” [School B]).

Although findings for the remaining three skills (i.e., goal setting, self-instructing, decision making) were not significantly different at the $p < .01$ level (self-instructing was at $p < .05$), School A participants reported never using these skills more frequently than did students in Schools B and C combined. For example, 11 School A participants reported never self-instructing, whereas 11 School B-C reported self-instructing all of the time (e.g., “Yeah, sometimes I do talk to myself, it’s a good idea and learning strategy” [School B]). Self-determination skills reported most frequently by School B-C students were self-advocating, choice making, self-reinforcing, and problem solving.

Statistical analysis of self-determination skills. A two-tailed $t$-test ($p < .05$) revealed a significant difference between means of the cumulative responses to self-determination skill items for School A and Schools B-C combined, $t(44) = 5.54, p < .001$. School A had a mean score of 5.89 ($SD = 4.50$) whereas Schools B-C combined had a mean of 15.22 ($SD = 6.29$), where never $= 0$ and all of the time $= 3$. The effect size was large (Cohen’s $d = 1.71$).

Post-school Goals

When asked the open-ended question on the SS-DS “What do you want to do when you graduate from high school?,” two-thirds of students across schools ($n = 30$) indicated wanting to seek employment. Responses included “Work in a grocery store putting things in a bag” (School A) and “I want to become a model and a fashion designer, because I like to design prom dresses” (School C). Nine students cited post-secondary education goals, primarily related to career training, such as “Go to technical school—do paint collision, custom painting” (School A) or “Go to college and graduate in culinary arts” (School B). Seven students indicated wanting to stay home and, in some cases, care for children, such as reported by a student from School B: “Stay home, keep my cousins.” Three students did not indicate any post-school goals.

Discussion

In this exploratory study, we examined the role of participation in inclusive settings and activities associated with active involvement in IEP activities and use of self-determination strategies among high school students with severe intellectual disability. We included a population rarely participating in self-determination investigations: students attending a high-poverty high school—many of whom were Black, Hispanic, or other ethnicities. Further, student interview data provided rich narrative findings to corroborate student self-reported use of self-determination skills.

Findings revealed significant differences in student participation in general education and transition activities across schools, which were associated, in turn, with level of self-determination skill use. Students with severe intellectual disability who were primarily educated throughout the day in their special education classrooms (School A) reported significantly less use of six of nine self-determination skills than did School B-C counterparts who experienced significantly more opportunity for inclusion in school and community. We also found significantly lower composite responses on self-determination skill use. Student-reported IEP participation was found to be low with no significant differences across schools. Most students across schools indicated wanting employment after high school versus post-secondary education. Our findings contribute to the literature in several important ways, as follows.

First, an empirical association has been established in the literature between indicators of self-determination and participation in the IEP process and positive post-school outcomes, such as employment (Martorell et al., 2008). It is critical, therefore, to know what components of transition programming promote the development of self-determination skills and active involvement in educational programming. This question is particularly compelling in light of the chronically poor post-school outcomes faced by students with severe intellectual disability (e.g., unemployment).
ment, economic dependence, segregation; Newman, Wagner, Cameto, & Knokey, 2009). Researchers have examined the role of instruction in promoting students’ self-determination and IEP involvement (e.g., Cross et al., 1999); in contrast, little is known about the influence of participation in inclusive settings and activities (e.g., Shogren et al., 2010).

We found that School A students participated in inclusive classes and school- and community-based transition instruction significantly less than did students attending Schools B-C. Numerous studies have demonstrated the positive effects of both inclusive school environments and community-based training on post-school outcomes, such as employment, postsecondary education, and independent living (e.g., Shogren et al., 2010). It is likely that attending school exclusively in a separate special education classroom, such as did 79% of School A participants (Table 1), and having very limited or no community-based instruction (all School A participants), provided students little opportunity to independently make choices, solve problems, or speak up for themselves. As suggested by Wehmeyer and Metzler (1995), educational environments that are highly structured, restrictive, or protective typically do not provide opportunities for independent problem solving or decision making. When daily activities are totally predictable, students likely do not have the opportunity to develop the skills to respond independently to the ever-changing, unpredictable events and vicissitudes that comprise everyday life in inclusive school and community settings.

In contrast, inclusive environments may present frequent challenges that can prompt independent performance and self-determination skills. For example, the bus route that a student takes to a community-based job site may unexpectedly change, causing the student to have to problem-solve options to get to work. Or when walking in the hall to her inclusive class without a teacher, a student must learn to prompt and reinforce herself to get to class on time. School A students in our study—who were already handicapped by limited access to inclusive school and community instructional environments—reported significantly less use of self-determination skills than did their counterparts experiencing more inclusive educational environments, suggesting that segregated settings can hinder self-determination. Our findings suggest that the degree to which students are included in school and community may affect their opportunities to make choices, set personal goals, express preferences, and develop other self-determination skills, as argued by others (e.g., Walker et al., 2011; Wehmeyer et al., 2007).

Second, our study is important because it is one of the few to examine self-determination and IEP participation among ethnically and racially diverse students with severe intellectual disability (Schools A-C), as well as those attending a failing, high-poverty high school (School A). Studies of self-determination and IEP participation have overwhelmingly included White, middle-class participants (e.g., Carter et al., 2009). Further, rarely have high-poverty youth with severe intellectual disability (or any transition-age youth with severe disabilities, for that matter) been asked about their self-determination and IEP involvement, highlighting the need to include these students as study participants. Students attending high-poverty School A reported significantly less use of self-determination skills than School B-C students. They also spent significantly less time in general education classes and transition activities in school and community than did their School B-C counterparts.

We cannot assume a relation between high-poverty schools and lack of inclusion and transition activities from these findings; however, limited resources typically associated with high-poverty environments likely present challenges to providing inclusive activities in high-poverty schools. For example, lack of transportation, job sites, and recreational facilities typically associated with high-poverty neighborhoods (Barton & Coley, 2010) may severely limit community-based instruction for students attending these schools. Likewise, limited numbers of paraprofessionals and other school staff may prevent teachers from implementing job training sites on campus, such as in the cafeteria, school office, or sports facilities, because of lack of supervisory staff across dispersed training sites. If participation in inclusive activities in school and community relates to increased self-determination, as suggested by this study, the “deck may be stacked” against students with severe intellectual dis-
ability attending high-poverty schools. These students may be entering adult life a step behind their counterparts attending more affluent schools who may have had access to inclusion and community-based transition experiences. Not only may post-school success be compromised, but self-determination and student-directed learning may be as well.

As argued by Wehmeyer et al. (2011), poverty, segregation, and restrictiveness of setting may inhibit the development of individuals’ self-determination, especially when coexisting with disability. When limited inclusion is compounded with the lack of resources and opportunity for enriched and varied experiences traditionally associated with high-poverty environments, development of self-determination skills is likely to be hindered. Consequently, researchers have cited the need to examine the effects of racial and ethnic marginalization and economic status on self-determination (e.g., Carter et al., 2009; Wehmeyer et al., 2011). This call is particularly timely considering that by 2020, the majority of public school students is expected to be low-income and of color—as is already true in the South and several western states (National Center for Education Statistics, 2006; Suitts, 2010).

Third, low participation in IEP activities was reported by students across Schools A-C. Although the majority of participants reported attending their IEP meetings (School A 58%; Schools B-C 71%), few students across schools reported ever leading their IEP meetings or knowing or evaluating their IEP goals. Comments of students who did report attending their IEP meetings suggested limited involvement (e.g., “I sit in them. They talk . . .”). Our findings are particularly disconcerting because not only is IEP participation required by IDEA legislation; it has been advocated since the 1990s as a means to improve student outcomes (e.g., Martin & Marshall, 1995). However, as observed by Martin, Van Dycke, Greene et al. (2006), active participation in IEP meetings will not occur without instruction. In particular, students with severe intellectual disability and limited verbal skills are unlikely to state their goals, ask for feedback, and other recommended actions at their IEP meetings (e.g., Martin et al., 1997) without considerable instruction and support. Our findings suggest, however, that instruction and support for IEP participation may be rare across even affluent schools that provide greater opportunity for inclusion and community experiences.

In addition, we found few differences across schools with respect to students’ post-school goals or views toward personal decision making. Most students (30 of 47) cited employment as a post-school goal, primarily in entry-level jobs, such as bagging groceries. Only nine mentioned postsecondary education as a goal and only in the context of technical training (e.g., auto body work). Over 20% (n = 10) of students either wanted to stay home or expressed no post-school goal. Such limited expectations for adult life likely show that, despite some transition programming—especially at Schools B-C—little career exploration and planning may have occurred even among the more inclusive schools. Lack of career instruction may also explain students’ seeming ambivalence about having decisions made by parents or teachers at an age when most adolescents would be less than favorable toward personal decisions made by others. Decision-making skills are best taught within the framework of having actual opportunities to make relevant life choices (Walker et al., 2011), which likely were absent in participants’ curricula.

Limitations and Future Research

Our findings also highlight limitations of our study and directions for future research. First, we did not directly observe students’ participation in school- or community-based activities across schools. Therefore, we do not know if opportunity to make choices and so forth actually occurred more frequently in inclusive school and community settings. We do contend that stimulus variation increases when students routinely enter different environments comprised of ever-changing demands, persons, and features to which students must respond. Studies in residential environments have shown that simply moving to a less restrictive environment can increase opportunities to choose (e.g., Wehmeyer & Bolding, 2001) and that both opportunities to choose and social inclusiveness of the environment relate to level of self-determination (e.g., Wehmeyer & Garner, 2003). Restrictiveness
of setting may serve as a mediating variable consistent with contemporary social-ecological views of environmental factors that enhance or inhibit self-determination (e.g., Walker et al., 2011; Wehmeyer et al., 2011). Future researchers should develop means to observe both inclusiveness of settings and activities and occurrences of actual self-determination use (e.g., when given the opportunity to choose lunch items in the cafeteria, a student exercises choice either independently or with assistance).

Second, we did not investigate the psychometric properties of the SS-DS, the instrument we developed to identify student use of self-determination skills. Although we did establish a Cronbach’s alpha of .82 for the SS-DS among 54 respondents with severe intellectual disability, indicating a high level of internal consistency among items, the validity and reliability of the instrument were not demonstrated. Drawing items extensively from the literature, as we did when we developed the instrument, however, does provide some evidence of its content validity. Developing a psychometrically sound self-report instrument to assess students’ self-determination skill use would contribute substantially to the research base. We do hold, however, that the SS-DS was sufficient with respect to the exploratory nature of this study.

Third, we did not report or control for IQ of participants, although all students met our criteria for and were identified by their schools as having severe intellectual disability based on assessment data in their school records. It could be that variation in students’ responses related to unreported differences in cognitive skills. However, researchers report that IQ is not a strong predictor of level of self-determination; rather, IQ is a stronger predictor of restrictiveness of placement (e.g., Wehmeyer & Garner, 2003). We also compared schools by demographic characteristics (e.g., free and reduced lunch status) and inclusiveness of participants’ activities. However, we did not address or control for variables such as family support, teacher quality, or community resources that could have influenced self-determination behavior. It could be that schools differed on many additional characteristics that influenced self-determination skill use reported by students. Future studies would benefit from an expanded array of variables that are systematically measured and accounted for when comparing student-reported self-determination skill use across settings and schools.

Fourth, we had only 47 participants in our study representing three high schools within one urban school district. Although we purposely selected three schools within the district that were diverse geographically and economically, generalizability of findings is limited. Having more participants across school settings and additional student-reported examples of self-determination behavior, such as we requested from students to validate affirmative responses, however, would have strengthened the argument for generalizability of findings. Future research efforts should address study limitations by incorporating direct observation of opportunities for self-determination across school and community settings; developing a psychometrically sound assessment of student self-determination skill use; controlling for IQ and other participant, school, and community characteristics; and expanding participant pools and environmental settings.

Implications for Practice

Findings from this exploratory study suggest that students with severe intellectual disability with limited access to inclusive school and community experiences are likely to experience arrested development in self-determination compared to peers experiencing more inclusive educational opportunities. On its most basic level, this study highlights the need to increase inclusiveness of settings and experiences available to students with severe intellectual disability to foster students’ self-determination and post-school success. This recommendation may especially apply to students attending high-poverty schools where opportunities for inclusion in school and community characteristically are limited. Relating inclusiveness of school and community settings to students’ post-school outcomes is an area warranting further investigation, particularly in light of the limited postschool employment and postsecondary education experiences reported for students from low-income
households as compared to those from more affluent homes (Newman et al., 2011).

In addition, findings illustrate the need to instruct and support students across all schools in acquiring IEP participation skills. As argued by Shogren et al. (2007), we need to have more, not fewer, opportunities and instruction for those who traditionally have had restricted opportunities to learn and practice self-determination and educational planning skills (i.e., students with severe intellectual disability and those who are low-income). These students can learn to make choices, self-advocate, and direct their own performance (e.g., Wehmeyer et al., 2007). We need to provide the opportunity, instruction, and support for them to do so.

References

Martin, J. E., Van Dycke, J. L., Christensen, W. R.,


