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Factors Influencing the Self-Determination of Transition-Age Youth With High-Incidence Disabilities

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Recognizing the contributions of self-determination to improved outcomes for transition-age youth with disabilities, researchers are increasingly directing their efforts toward identifying factors associated with (a) these students' acquisition of skills that enhance self-determination and (b) educators' efforts to promote opportunities to be self-determined. This article examines the contributions of social skills and problem behaviors to the self-determination of 90 high school students with emotional disturbances and learning disabilities. Social skills were found to be a significant predictor of students' capacity for self-determination, but were not associated with self-determination opportunities at school. Ratings of students' problem behaviors added no additional predictive value. The association between these skill domains has important implications for the design of meaningful transition experiences for these youth.

Keywords: *high-incidence disabilities; self-determination; high school; independence; transition*

From a very early age, children begin developing the attitudes, dispositions, skills, and behaviors that enable them to assume greater responsibility for directing various aspects of their lives (Sands & Doll, 1996; Shogren & Turnbull, 2006). This emerging capacity can be nurtured through children's experiences at school and home; it can be shaped through their interactions with peers, siblings, parents, teachers, and other caregivers; and it can be informed by the knowledge that children acquire about themselves and the world around them. Typically referred to as *self-determination*, this ability to take primary control of one's own life and to do so in personally meaningful ways is recognized as an important educational outcome for youth with and without disabilities (Field, Martin, Miller, Ward, & Wehmeyer, 1998; Karvonen, Test, Wood, Browder, & Algozzine, 2004). It is during adolescence, however, that the contribution of self-determination is recognized as having particular salience. New opportunities for developing, demonstrating, and deepening this capacity emerge as youth transition

through high school and launch into young adulthood. Indeed, the extent to which youth demonstrate self-determination may have a substantial impact on their later life outcomes (e.g., Hadre & Reeve, 2003; Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997, 1998).

For high school students with disabilities, much of the emphasis placed on self-determination has surrounded the transition-planning process and the extent to which students are involved in and contribute meaningfully to these efforts (e.g., Martin et al., 2006; Thoma, 2005; Trainor, 2005; Williams-Diehm, Wehmeyer, Palmer, Soukup, & Garner, in press). Although self-determination has clear implications for transition planning, its relevance is far broader than this annual planning meeting. The ability of youth to make sound choices, work toward self-selected

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goals, solve unexpected problems, recognize and communicate their strengths, advocate for needed services and supports, and self-assess their progress can directly influence their engagement and success in school, as well as the outcomes that they later achieve. It is therefore not surprising that efforts to promote self-determination have assumed such prominence in the research literature and have permeated recent discussions of best practices (Agran & Hughes, 2005; Thoma & Getzel, in press; Wehmeyer & Powers, 2007).

In recent years, the importance of self-determination has received strong endorsement from multiple stakeholders. Special educators (Thoma, Nathanson, Baker, & Tamura, 2002; Wehmeyer, Agran, & Hughes, 2000), general educators (Carter, Lane, Pierson, & Stang, in press; Grigal, Neubert, Moon, & Graham, 2003), parents (Zhang, 2005; Zhang, Wehmeyer, & Chen, 2005), and youth themselves (Benz, Lindstrom, & Yovanoff, 2000; Whitney-Thomas & Moloney, 2001) have consistently affirmed the social validity of self-determination as an educational outcome. For example, Carter et al. (in press) found that general and special educators placed high priority on teaching each of seven component skills related to self-determination (e.g., decision making, goal setting, self-management) in their classrooms. Furthermore, this importance has been articulated across the age span for young children (Shogren & Turnbull, 2006), elementary students (Stang, Carter, Lane, & Pierson, in press), secondary students (Mason, Field, & Sawilowsky, 2004), and college-age students (Thoma & Getzel, 2005).

Despite the importance placed on this transition domain, research suggests that many youth with disabilities—particularly, those with emotional and behavioral disorders (EBD) and learning disabilities (LD)—demonstrate limited self-determination (e.g., Cameto, Levine, Wagner, & Marder, 2003; Trainor, 2005). Carter, Lane, Pierson, and Glaeser (2006) examined the capacities of high school students with EBD and LD to engage in self-determined behavior and found that special educators rated these students as having little knowledge about self-determination and the behavior that it requires, diminished ability to engage in such behavior, and limited confidence regarding the efficacy of their efforts in this area. Similarly, Wagner et al. (2003) reported that approximately half of youth with EBD were judged to have difficulty advocating for themselves and were less likely than any other disability group to evidence persistence. Further evidence of limited self-determination may be apparent in the high levels of disengagement from and dissatisfaction with school, apparent among these youth. Almost half of youth with EBD say that they enjoy school *a little* or *not at all*, and substantial

numbers feel limited affiliation, if any, with their school communities (Wagner, Newman, Cameto, Levine, & Marder, 2007). Youth themselves say that they have difficulty seeing the relevance of school for their lives, that they have little input into their own education and planning, and that they struggle to see the connections between classroom lessons (i.e., what they are expected to learn in class) and their plans for the future (e.g., Korterling, Brazziel, & Tompkins, 2002; Trainor, 2005; Whitney-Thomas & Moloney, 2001). These perceptions contribute to high rates of absenteeism and school dropout, thereby substantially hindering the ability of educators and service providers to deliver needed transition services to this segment of the school community.

Researchers are increasingly directing their efforts toward identifying factors that influence the extent to which youth with disabilities become self-determined. For example, contextual factors such as educational placement, support models, curricular efforts, and involvement in the individualized education program planning meeting may influence the opportunities that youth receive to learn and demonstrate skills that enhance self-determination (e.g., Carter et al., 2006; Shogren et al., 2007; Zhang, 2001). At the same time, student variables (i.e., personal characteristics) appear to have a substantial impact on self-determination. This research has focused on largely invariant factors such as age, disability, ethnicity, gender, intelligence level, and socioeconomic status (e.g., Cameto et al., 2003; Shogren et al., 2007; Wehmeyer, 1996; Wehmeyer & Garner, 2003), personal characteristics that are generally not amenable to intervention. However, understanding their potential influence can inform the design and delivery of the interventions to maximize effectiveness. Moreover, two additional student factors that are responsive to intervention may be especially relevant to promoting self-determination among transition-age youth with EBD and LD.

First, the extent to which youth possess critical social skills may affect their attainment of important educational and transition outcomes (Black & Ornelles, 2001; Gresham, Sugai, & Horner, 2001). Yet, the influence of social competence on the self-determination capacities and opportunities of youth with disabilities has not been adequately explored. Self-determined behavior typically occurs within a social context—through interactions with classmates, parents, teachers, employers, and other community members—and it may be influenced by the youth's ability to effectively interact with peers and adults. Indeed, many component elements of self-determination (e.g., problem solving, decision making, self-advocacy, leadership) can sometimes serve a social function (Caldarella & Merrell, 1997; Gresham et al., 2001).

Furthermore, conceptual models of self-determination depict multiple points at which social skills might moderate a person's ability to develop the capacity of self-determination or access and maximize opportunities to be self-determining (e.g., Field & Hoffman, 2002; Mithaug, Mithaug, Agran, Martin, & Wehmeyer, 2003; Ryan & Deci, 2000; Wehmeyer, 1999). Because substantial numbers of youth with EBD and LD evidence acquisition and performance deficits in the area of social skills (Kavale & Mostert, 2004; Lane, Carter, Pierson, & Glaeser, 2006), elucidating this potential relationship has direct implications for designing effective transition interventions. Although Nota, Ferrari, Soresi, and Wehmeyer (2007) found that social skills ratings were moderately correlated with three of four scales assessing self-determination capacities and predicted overall levels of self-determination for adults with intellectual disabilities, additional research is needed to determine whether this relationship is evident among transition-age youth with high-incidence disabilities.

Second, challenging behaviors can be a defining characteristic of youth with EBD and are evidenced among many youth with LD (e.g., Cullinan & Sabornie, 2004; Lane et al., 2006; Wiener & Tardif, 2004). The occurrence of problem behaviors—externalizing (e.g., aggression and noncompliance) and internalizing (e.g., anxiety and depression)—has been closely linked to placement in restrictive settings and diminished school and extracurricular participation (Lane, Wehby, Little, & Cooley, 2005), each of which may further limit the opportunities that these youth have to learn about and exercise choice making, decision making, self-advocacy and other skills that contribute to enhanced self-determination. Previous research, however, has not examined the extent to which the presence of challenging behaviors among youth predicts self-determination capacities and opportunities. The persistently disappointing postschool outcomes of youth who exhibit behavioral challenges intimate that substantial numbers of these students are leaving school without the necessary skills to effectively direct their lives (Wagner & Davis, 2006). For secondary educators charged with meeting the multifaceted needs of these youth, understanding the contributions of problem behaviors to diminished self-determination could assist educators in designing educational experiences that couple effective behavioral supports with intentional efforts to teach self-determination.

The purpose of this study was to examine the contributions that social skills and problem behaviors make to the self-determination capacities and opportunities of transition-age youth with emotional disturbances (ED) and LD. We hypothesized that greater social competence

and fewer problem behaviors would be associated with increased self-determination. Moreover, we anticipated that this relationship would be more prominent among youth with ED.

Method

Participants

Ninety secondary students with high-incidence disabilities—43 with ED and 47 with LD—were the focus of this study (see Table 1). On average, these youth were 16 years old (range: 14–19), with the majority being male (66.7%). Forty-one students were Caucasian (45.6%); 32 were Hispanic (36.7%); 9 were African American (10%); and 8 were Asian American or other ethnicities (8.9%). This diverse participant sample differed from the sample national population of students with ED and LD only with regard to ethnicity (U.S. Department of Education, 2006), primarily due to the large number of Hispanic families that reside in the state in which this study was conducted. Older students were less represented than younger students in this sample, with 32 students in 9th grade (35.6%), 30 in 10th grade (33.3%), 16 in 11th grade (17.8%), and 12 in 12th grade (13.3%). Chi-square analyses revealed no significant differences between students with ED and LD on the variables of gender ($p = .77$), grade ($p = .96$), and ethnicity ($p = .86$). In addition, a t test revealed no significant differences between students with ED and LD in terms of age ($p = .88$). To be included in this study, students had to be receiving special education services under a primary disability category of either ED or LD under state and district criteria, provide parental consent for participation, and provide assent to participate. Students' capacities and opportunities to engage in self-determined behavior, as well as their social skills and problem behaviors were assessed by their primary special education teachers. Most of these teachers were Caucasian (72.7%), and all were female.

Schools

To recruit students evidencing a range of social and behavioral profiles, we used a random-numbers table to select four high schools from within two large school districts in a western state. This selection process yielded two comprehensive schools and two alternative schools. Both districts were ethnically diverse, with student enrollments that averaged 43.3% Caucasian, 37.4% Hispanic, 7.6% African American, and 11.8% Asian American and other ethnicities. Student enrollment in

Table 1
Participant Characteristics by Group

Characteristics	Emotional Disturbances		Learning Disabilities	
	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)
<i>n</i>	43		47	
Age		15.94 (1.22)		16.12 (1.24)
Ethnicity				
Caucasian	22 (51.2)		19 (40.4)	
Hispanic	14 (32.6)		18 (38.3)	
African American	3 (7.0)		6 (12.8)	
Asian American	2 (4.7)		2 (4.3)	
Other	2 (4.7)		2 (4.3)	
Gender				
Female	15 (34.9)		15 (31.9)	
Male	28 (65.1)		32 (68.1)	
Grade				
9	15 (34.8)		17 (36.2)	
10	15 (34.8)		15 (31.9)	
11	8 (18.6)		8 (17.0)	
12	5 (11.6)		7 (14.9)	
WISC-III				
Full		88.67 (10.6)		86.90 (10.9)
Verbal		87.70 (12.1)		86.64 (11.9)
Performance		87.84 (12.7)		87.77 (10.8)

Note: WISC-III = *Wechsler Intelligence Scale for Children—Third Edition* (Wechsler, 1991).

the two comprehensive schools averaged 2,264 students, and graduation rates averaged 79.6%. Enrollment in the two alternative schools averaged 97 students. These four schools were also economically diverse, with between 13.0% and 75.0% ($M = 49.3\%$) of students eligible to receive free or reduced-price lunch.

Instruments

Self-determination capacities and opportunities. The *AIR Self-Determination Scale* (Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994) is an assessment instrument designed to measure students' capacity for and opportunity to engage in self-determined behavior from multiple perspectives (i.e., teachers, students, parents). For purposes of this study, teachers completed the teacher version of the scale. The Capacity subscale assesses the extent to which students connect beliefs about what they need, want, and can do with their expectations, choices, actions, and results. The 18 items that comprise the Capacity subscale address students' ability to perform self-determination behaviors, such as setting goals, making choices, and following up with actions designed to meet those goals ($n = 6$ items); their perceptions of the efficacy of self-determined behaviors, including their motivation to set personal goals, degree

of optimism about being able to achieve goals, and willingness to take risks ($n = 6$ items); and their knowledge about self-determination and the behavior that it requires ($n = 6$ items). Respondents are asked to rate each item on a 5-point Likert-type scale—ranging from *never* (1) to *always* (5)—to indicate how frequently the student engages in the behavior. The opportunity section includes two subscales to assess the opportunities that youth have to engage in self-determined behavior: Opportunities at School ($n = 6$ items) and Opportunities at Home ($n = 6$ items). Respondents indicate how frequently students have opportunities to engage in each behavior, using a 5-point Likert-type scale ranging from *never* (1) to *always* (5). For purposes of this article, we calculated average mean scores for the Capacity subscale and the Opportunities at School subscale.

The *AIR Self-Determination Scale* has strong reliability and validity (see Mithaug et al., 2003; Wolman et al., 1994). Initial field-testing of the instrument was conducted with an ethnically diverse sample of youth living in the same geographic region as that of the participants in the present study. Reliability tests indicated strong internal consistency and adequate test-retest reliability. With the present sample, reliability analyses using Cronbach's alpha were conducted for individual subscales and for each section of the *AIR Self-Determination*

Scale for educators, students, and parents. All alphas ranged from .89 to .99 ($M = .95$), indicating strong internal consistency. In addition, the reliability and validity of the scale has been demonstrated in several recent studies (Shogren et al., 2007; Williams-Diehm et al., in press).

Social skills and problem behaviors. The *Social Skills Rating System—Secondary Teachers Version* (Gresham & Elliott, 1990) comprises three subscales derived from factor analysis: Social Skills, Problem Behaviors, and Academic Competence. On the Social Skills subscale, teachers rate how often a student exhibits each of 30 social skills constituting three social skill domains: cooperation (e.g., attends to instructions), assertion (e.g., initiates conversations with peers), and self-control (e.g., controls temper in conflict situations with peers). Each skill is rated on a 3-point Likert-type scale, ranging from *never* (0) to *very often* (2). On the Problem Behaviors subscale, teachers rate how often a student engages in each of 12 problem behaviors equally distributed across two domains: internalizing (e.g., acts sad or depressed) and externalizing (e.g., gets angry easily). Each skill is rated on a 3-point Likert-type scale, ranging from *never* (0) and *very often* (2). For purposes of this article, standard scores for Social Skills and Problem Behaviors scales were analyzed in the predictive models. Scores from the academic competence data are not reported in this study. The *Social Skills Rating System* has been widely used in research and practice and evidences strong psychometric properties.

Procedures

The data analyzed in this article were collected as part of a larger investigation of the social, behavioral, and self-determination needs of transition-age youth (see Carter et al., 2006; Lane et al., 2006). During the spring semester, we asked district staff to use a random-numbers list to select 60 students from a roster of all students receiving special education services under the ED label at all four high schools. Sixty students who were matched on grade level and gender to the ED sample were randomly selected from among all students receiving special education services under the LD label at the same schools. Parental consent and student assent to participate was obtained from 94 students—75.0% of all students with ED and 81.7% of all students with LD. Special educators completed the two scales independently at a convenient time during the school day. Approximate completion time for the *AIR Self-Determination Scale* ranged from 15 to 25 min for educators; the *Social Skills Rating System* required approximately 15 to 20 min for teachers to complete. Four educators did not complete

either the *AIR Self-Determination Scale* or the *Social Skills Rating System*, resulting in a final participation rate of 75.0% (90 students) for this analysis.

Statistical Analysis

Results were analyzed using bivariate correlation and multiple regression procedures. Multiple regression procedures were used to examine how disability group (disability), teacher ratings of social skills (social skills), teacher ratings of problem behaviors (problem behaviors), and the interaction between disability group and social skills (Disability \times Social Skills) and problem behaviors (Disability \times Problem Behaviors) predicted two outcome variables: students' capacity to be self-determining at school (capacity) and students' opportunities to be self-determining at school (opportunities). F values were examined to determine the significance of the overall model. If the model was significant, then univariate analyses were conducted to ascertain the unique contribution of each of the five variables in the model. We used t tests to ascertain the significant contribution of each predictor variable, controlling for the remaining variables. Beta weights (standardized multiple regression coefficients) and uniqueness indices were examined to determine the relative value of each predictor variable in the model. The unique index for a given predictor is the percentage of variance in the criterion variable accounted for by that predictor variable over and above the variance explained by the remaining predictor model. Semipartial correlations determine the relationship between the predictor variable and criterion variable, controlling for the other variables in the model, whereas bivariate correlations examined overall relationships.

$$Y = \beta_0 + \beta_{\text{disability}} + \beta_{\text{social skills}} + \beta_{\text{problem behaviors}} + \beta_{\text{Disability} \times \text{Social Skills}} + \beta_{\text{Disability} \times \text{Problem Behaviors}} + \epsilon$$

The construction of this model was based on the hypothesis that students with higher levels of social skills and lower levels of problem behaviors would evidence greater capacity for self-determination and thus be provided more opportunities to engage in self-determined behavior. We also expected that this relationship may be more pronounced in youth with ED when compared to youth with LD.

Results

Correlations Between Variables

Correlations among disability group, social skills, and problem behaviors were significant (see Table 2).

Table 2
Correlation Matrix for All Variables

Variable	1	2	3	4	5	6	7
1. Disability	1.00						
2. Social skills	-.52****	1.00					
3. Problem behaviors	.61****	-.76****	1.00				
4. Disability × Social Skills	.93****	-.25*	.40****	1.00			
5. Disability × Problem Behaviors	.99****	-.59****	.70****	.87****	1.00		
6. Capacity	-.52****	.77****	-.55****	-.34***	-.55****	1.00	
7. Opportunity	.03	-.06	.14	-.06	.07	.19	1.00

* $p < .05$. *** $p < .001$. **** $p < .0001$.

Specifically, there was a significant moderate negative correlation between disability group and social skills ($r = -.52$), with students with ED having lower social skills ratings relative to students with LD. Correlations also revealed a significant moderate positive correlation between disability group and problem behaviors ($r = .61$), with students with ED having higher problem behaviors ratings relative to students with LD. In addition, there was a significant moderate-to-high correlation between problem behaviors and social skills ($r = -.76$). Interactions between disability group and social skills (Disability × Social Skills) and disability and problem behaviors (Disability × Problem Behaviors) were also entered into the models, to examine the presence of significant interactions.

Capacity to Self-Determine

In predicting capacity, the five-variable model accounted for 63% of the variance in students' capacity scores, $R^2 = .63$, $F(5, 84) = 29.08$, $p < .0001$. Inspection of semipartial correlations indicated that neither of the interaction terms was significant. Only one variable—students' social skills—was significant in predicting capacity scores, $t = 5.49$, $p < .0001$, accounting for 13.12% of the variance in capacity after controlling for the other four variables in the model. Students with stronger social skills were viewed as having greater capacity to be self-determining ($r = .77$, $p < .0001$).

Opportunities to Self-Determine

In predicting opportunity, the five-variable model was not significant, accounting for only 10% of the variance in students' opportunity scores, $R^2 = .10$, $F(5, 84) = 1.94$, $p = .096$ (see Table 3). Consequently, semipartial correlations were not interpreted.

Discussion

The extent to which transition-age youth with disabilities acquire the skills and opportunities that promote self-determination can play a role in shaping their in-school and postschool outcomes. Recognizing that youth with disabilities evidence varied capacities in this transitional domain, researchers have called for a closer examination of factors that contribute to or stifle the development of self-determination among these youth (Carter et al., 2006; Stancliffe, 2001). We examined the contributions of students' social and behavioral skills on the self-determination capacities of youth with ED and LD. Our findings extend the literature on promoting self-determination in several important ways.

First, we found that social skills are a significant and substantial predictor of teachers' ratings of youth's self-determination capacity. Specifically, youth with disabilities who were more skilled socially were judged to have greater capacity to be self-determined. Our findings echo those of Nota et al. (2007) and align with current conceptual models of self-determination in the field (e.g., Test, Fowler, Wood, Brewer, & Eddy, 2005). Self-determination clearly has a social component, especially when considered within the context of planning and working toward personal goals within school environments. As operationalized on the *AIR Self-Determination Scale*, self-determination involves expressing one's interests, needs, and abilities; setting goals that reflect those needs and interests; taking steps to reach those goals; and adjusting actions after evaluating one's own progress. Limited social skills can constrain the extent to which students with disabilities are able to perform these behaviors effectively and in socially acceptable ways.

This finding is significant because many self-determination intervention strategies have been evaluated in relative isolation as discrete skills, without incorporating

Table 3
Results of Multiple Regression Analyses in Predicting Capacity and Opportunity

Predictor Variable	Variables							
	Capacity to Self-Determine				Opportunities at School			
	Beta Weights		Unique Indices		Beta Weights		Unique Indices	
	Value	<i>t</i>	Value	<i>F</i>	Value	<i>t</i>	Value	<i>F</i>
Disability	-1.25	-1.22	0.0065	1.49	1.90	1.19	0.0152	12.34***
Social skills	0.78	5.49***	0.1312	30.10***	0.46	2.09*	0.0465	37.74***
Problem behaviors	0.03	0.18	0.0001	0.23	0.28	1.13	0.0135	10.96**
Disability × Social Skills	0.07	0.20	0.0001	0.23	-1.27	-2.36*	0.0593	48.13***
Disability × Problem Behaviors	1.06	1.30	0.0073	1.67	-0.63	-0.49	0.0026	2.11
Overall model	$F(5, 84) = 29.08, p < .0001$ $R^2 = .63$				$F(5, 84) = 1.94, p = .0962$ $R^2 = .10$			

Note: Standardized beta weights and unique indices reflect all variables in each model. For *t* tests that tested the significance of the beta weights, *df* = 84. For *F* tests that tested the significance of the uniqueness indices, *df* = 1, 84. *R*² refers to the proportion of explained variance of the overall model, adjusted *R*².

p* < .05. *p* < .01. ****p* < .001. *****p* < .0001.

instruction on the collateral social skills that will be needed to implement these strategies with maximum effectiveness (e.g., Algozzine, Browder, Karvonen, Test, & Wood, 2001; Test et al., 2004). Component skills that promote self-determination—such as choice making, decision making, problem solving, self-regulation, and leadership—are likely to be more effective when coupled with instruction targeted to students' social-related skill deficits. For example, directing a transition-planning meeting (Martin et al., 2006), advocating for oneself (Test et al., 2005), and making decisions that require external advice (Fore & Riser, 2005) are all enhanced by strong communication and interpersonal skills. As additional intervention research is conducted, component analyses examining the additive benefits of incorporating social skills instruction into self-determination packages are needed to further maximize intervention effectiveness.

Our findings further illustrate the complexity of this construct and the multiple factors that may shape the development of self-determination. The social skills that students possess may actually mediate differences in self-determination reported among youth with ED and LD (Carter et al., 2006). We found that disability differences in self-determination capacity disappeared when social skills and problem behaviors were controlled for. However, given that there was a high correlation between the disability and Disability × Problem Behaviors interaction effect, it is possible that multicollinearity may have occurred; namely, it is possible that terms in the model may have been competing for variance (e.g., disability and Disability × Problem Behaviors). Yet, without this term in the model, the potential interaction effects would have been ignored.

Second, contrary to our expectations, students with higher levels of problem behaviors were not found to have lower ratings of self-determination capacity when other factors (i.e., social skills, disability label) were taken into account. Although this finding is consistent with some research involving adults with intellectual disabilities (for a review, see Stancliffe, 2001), we anticipated that students with a history of engaging in elevated levels of problem behaviors might receive fewer opportunities to learn about and practice skills that promote self-determination within school-based educational programs. Yet, even in models that contained only group, social skills, and problem behaviors as predictors, problem behaviors were not predictive of capacity or opportunities. That this relationship was not found could relate, in part, to the manner in which the *AIR Self-Determination Scale* operationalizes the construct or to the specific behaviors that the *Social Skills Rating System* taps. The process of thinking, doing, and adjusting may be less affected by the extent to which a student evidences anxiety around peers, is easily embarrassed, likes to be alone, or argues with others. It may also be that the direction of influence is in the opposite direction; that is, diminished self-determination may contribute to increased problem behaviors (Romaniuk & Miltenberger, 2001). Moreover, some efforts that students make to exert control over their immediate environment may be interpreted by educators as being challenging behavior. In other words, some youth may not know socially appropriate avenues for expressing their preferences and advocating for their needs. Future research is needed to further explore the nature of any relationship between

challenging behavior and self-determination for youth with disabilities.

Third, social skills and problem behaviors did not emerge as significant predictors of the opportunities provided to youth with disabilities to engage in self-determined behavior at school. We found that teachers generally perceived there to be frequent opportunities for students to exercise these capacities at school, a finding corroborated in other research studies of educators' perceptions (Carter et al., in press; Mason et al., 2004). These elevated ratings may have somewhat tempered this overall relationship, highlighting the importance of incorporating direct observation tactics into future research studies. It may also be that other factors play a more prominent role in influencing the opportunities that youth with disabilities are provided in this area, including the extent to which educators value self-determination as an instructional priority, the training and resources that they have received to implement self-determination instruction (e.g., availability of socially valid curricula), competing curricular demands, or limited administrator support. It is essential that additional work be directed toward refining self-determination intervention strategies so that they are acceptable to teachers, feasible to implement, and well aligned with other instructional emphases.

Implications for Practice

Promoting self-determination has emerged relatively recently as a recommended practice for equipping youth with disabilities for life after high school. Our findings suggest several areas for improving transition services and supports related to this domain. First, self-determination was never intended to stand alone as a discrete instructional area. Instead, efforts to enhance self-determination should be woven throughout multiple transition domains, promoted in diverse settings, and addressed in conjunction with other related skill deficits. For youth with ED and LD who may exhibit deficits in the area of interpersonal skills, self-determination and social skills instruction may need to be combined into a more comprehensive intervention approach. Indeed, existing self-determination curricula (e.g., Halpern et al., 1997; Hoffman & Field, 2006) may provide a more meaningful context within which to teach essential social skills to youth with high-incidence disabilities.

Second, although recent meta-analyses have documented the large effects associated with an array of self-determination interventions (Algozzine et al., 2001; Test et al., 2004), the same degree of efficacy has not been found for social skills interventions (Gresham et al., 2001; Kavale, Mathur, & Mostert, 2004). To maximize

effectiveness, social skill instruction should be characterized by thorough assessment of relevant deficit areas, identification of critical social or behavioral skills related to success in a school or community context, and systematic and focused instruction that addresses those targeted skill areas.

Third, educators may need to be deliberate about ensuring that efforts be directed toward promoting self-determination for youth who evidence limited social skills. Instruction on component skills that promote self-determination should be intentionally, rather than informally, provided for these youth and coupled with frequent opportunities to practice and refine those skills. Moreover, these opportunities must extend beyond the sole context of transition planning efforts and so be infused throughout students' educational experiences.

Limitations

Several limitations should be addressed in future research. First, given that we focused on the contributions of a narrow set of individual predictors—social skills and problem behaviors—on youth's self-determination, more complex modeling is needed to clarify how multiple factors may work in tandem to influence the capacity of youth with disabilities to be self-determining. Numerous factors may coalesce in various ways to shape the opportunities that students have to learn about and receive reinforcement for these skills (Carter et al., in press; Shogren et al., 2007; Stancliffe, 2001; Trainor, 2002)—factors relating to the student (e.g., adaptive behavior, social skills, personal characteristics), the family (e.g., expectations, cultural values, resources), the school (e.g., teacher training, curricular materials), and the community (e.g., opportunities, services). Second, self-determination can be defined and assessed in multiple ways, depending on one's theoretical perspective and research focus (Field & Hoffman, 2007; Wehmeyer, Abery, Mithaug, & Stancliffe, 2003). The relation among social skills, problem behaviors, and self-determination may be more or less pronounced on the basis in which these constructs are operationalized (Shogren et al., in press). Our decision to use a single self-determination assessment constrained our ability to explore this possibility in greater depth.

Third, we relied on special educators to provide proxy information on youth's self-determination. The extent to which these educators had sufficient opportunities to directly observe students' self-determination skills and opportunities was not documented, nor were the specific contexts in which these students received educational services. Youth who spend the majority of their school

day in general education rotate among as many as eight different classrooms; as such, gathering accurate transition assessment data may necessitate querying multiple teachers and school staff (Sitlington & Clark, 2007). Future research is needed to explore whether and how the perspectives of these different stakeholders may yield different portraits.

Fourth, two limitations related to our statistical analysis should be addressed. Although it is important to explore interaction effects between types of students (e.g., ED and LD) and key characteristics (e.g., social skills and problem behaviors), doing so can create potential challenges when modeling. One such challenge is the inclusion of highly correlated variables, which may pose the problem of multicollinearity. Additional analyses are warranted to confirm the presence of these findings before generalizing key findings. In addition, given the range restriction in opportunity ratings of teachers (i.e., high ratings with limited variability), additional research should be directed toward exploring factors affecting self-determination opportunities. Fifth, the generalizability of our findings may be limited by the small sample size and by the limited number of participating schools.

Becoming self-determined is a developmental task, but it is not automatic. There is broad consensus that intentional intervention efforts must be directed toward ensuring that youth with disabilities acquire the skills and experiences that enhance their self-determination. For many youth with disabilities, social skills instruction should compose one component of comprehensive transition efforts to increase self-determination.

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