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Examining Individual and Environmental Factors on Levels of Self-Determination of Students with Disabilities

: The Relationship between Self-Determination and Disability Categories, Gender, and Educational Settings

Seo, Hyo Jeong*
University of Kansas
Michael L. Wehmeyer
University of Kansas, Ph. D.
Susan B. Palmer
University of Kansas, Ph. D.
Jane H. Soukup
University of Kansas, Ph. D.
Kendra Williams-Diehm
University of Oklahoma, Ph. D.
Karrie Shogren
University of Illinois at Urbana-Champaign, Ph. D.

《 Abstract 》

Self-determination for students with disabilities has gained increased attention in special education since the early 1990s. During this time, research has documented theoretical frameworks to provide a solid understanding of self-determination. Despite different theoretical frameworks to consolidate the underlying construct of self-determination, each framework has common traits: the individual characteristics and environmental factors. This study examined individual characteristics (i.e., primary

* 교신저자(hyojeongseo@ku.edu)

disability and gender) and environmental characteristics (i.e., educational setting) to identify the impact on the levels of students' self-determination. Results indicate that only disability categories have a significant impact on students' relative levels of self-determination. Implications and future directions for research and practice are discussed.

Key Words : Students with disabilities, Self-determination, Individual factor, Environmental factor

Ⅰ. Introduction

Self-determination for students with disabilities has gained increased attention in special education for the last two decades, especially with regard to promoting the adult educational outcome and the lifelong learning process. The continuous attention to self-determination has been demonstrated in various ways: (a) validating empirical interventions to improve self-determination for students with disabilities (Eisenman, 2007; Wehmeyer & Field, 2007), (b) enabling teachers to use curriculum and assessment to promote students' self-determination (Field & Hoffman, 1996; Field, Martin, Miller, Ward, & Wehmeyer, 1998; Wehmeyer, Agran, & Hughes, 1998), (c) providing access to the general curriculum (Palmer, Wehmeyer, Gipson, & Agran, 2004), (d) ensuring learning outcomes for young students with disabilities as well as transition outcomes for adolescents with disabilities (Palmer & Wehmeyer, 2003; Wehmeyer & Schwartz, 1998), (e) assuring the improved quality of life for individuals with disabilities (Lachapelle et al., 2005), and (f) synthesizing an emerging body of empirically validated interventions to promote self-determination for students with disabilities (Algozzin, Browder, Karbonen, Test, & Wood, 2001; Cobb, Lehmann, Newman-Gonchar, & Alwell, 2009).

These various self-determination studies have stood on the basis of the consolidated self-determination construct and empirically validated theoretical models of self-determination. With regard to this, Wehmeyer (1998, 2005) conceptualized the self-determination construct and focused

on remedying misinterpretations pertaining to self-determination in order to minimize a lack of consistency in the conceptualization of self-determination by researchers and practitioners. In addition, Wehmeyer, Abery, Mithaug, and Stancliffe (2003) summarized three primary theoretical models of self-determination to promote the foundation of educational practice: (a) an ecological theory of self-determination developed by Abery and Stancliffe (1996), (b) a self-regulation theory of self-determination defined by Mithaug (1993), and (c) a functional theory of self-determination conceptualized by Wehmeyer (1999).

First, the ecological theory of self-determination, derived from Bronfenbrenner's ecological perspective, defines self-determination as "the product of both the *person* and the *environment* of the person using the skills, knowledge, and beliefs at his/her disposal to act on the environment with the goal of obtaining valued and desired outcomes" (Wehmeyeretal., 2003, p.27). Second, the self-regulation theory of self-determination advocates the process of individuals adjusting optimally to their environment. Particularly, this theoretical framework highlights the interaction between the individual capacity and optimal opportunities to obtain the desired gain for each student. *Capacity* refers to knowledge and abilities that allow individuals to become self-determined, and *opportunity* refers to chances to accomplish the desired gain. Third, the functional theory of self-determination defines 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" (Wehmeyer, 2005, p.117). Specifically, self-determined actions in the functional theory of self-determination are described by four essential characteristics; (a) the person acts autonomously; (b) the behavior is self-regulated; (c) the person initiates and responds to the event(s) in a psychologically empowered manner; and (d) the person acts in a self-realizing manner (Wehmeyer et al., 2003).

Despite different perspectives on these three theoretical frameworks, they have two aspects in common: personal capacity and the environment that surrounds each person. Multiple studies have demonstrated how personal characteristics and environmental factors influence students' levels of self-determination. For example, studies addressing the relationship between personal characteristics and students' levels of self-determination

specifically discussed student's gender, IQ score, disability category, ethnicity, and social ability (Lee et al., 2010; Nota, Ferrari, Soresi, & Wehmeyer, 2007; Wehmeyer, 1996; Wehmeyer & Garner, 2003; Shogren et al., 2007). Also, studies have examined the relationship between environmental factors and the level of self-determination depending on the school conditions (integrated or segregated settings), communities, and the level of interaction with non-disabled peers (Duvdevany, Ben-Zur, & Ambar, 2002; Stancliffe, Abery, & Smith, 2000; Wehmeyer & Bolding, 1999, 2001; Zhang, 2001). However, aforementioned studies have grown at a slow rate compared to the expanded literature base related to self-determination interventions, curricular materials, and instructional models.

Specifically, more research to examine individual and environmental factors on self-determination needs to be conducted for the following reasons: (a) previous studies have shown the mixed results; (b) intra-characteristics of students help teachers provide direction for employing unique interventions, rather than considering personal characteristics that should be an element of all intervention efforts (Shogren, 2006); (c) being aware of environmental conditions that students face helps practitioners to provide direction in establishing environmental conditions and to develop support to promote students' self-determination (Wood & Test, 2001).

Therefore, the purpose of this present study was to examine the relationship between personal factors and the levels of students' self-determination, as well as the relationship between the environmental factor and the levels of students' self-determination. Specifically, the following research questions were addressed:

1. Are personal characteristics (i.e., primary disability and gender) associated with different outcomes on the levels of self-determination of students with disabilities?
2. Are the educational settings (i.e., resource room, self-contained classroom, and general education classroom) related with different outcomes on the levels of self-determination of students with disabilities, taking students' estimated intellectual capacities into account?

Ⅱ. Method

1. Participants

The study participants were 230 high school students who received special education services. These students were randomly recruited from urban, suburban, and rural public school districts across 6 states (Arkansas, Kansas, Missouri, Nebraska, Oklahoma, and Texas), engaging in a longitudinal study to examine the effects of interventions to promote students' self-determination. The project staff initially contacted school districts, and districts that agreed to participate in the study collaborated with the project personnel to identify students who met the project criteria. Students ranged in age from 14.3 to 20.3 years (M=16.53; SD=1.23).

The majority of students were under the categorical area of learning disability (36.52%) or intellectual disability (33.04%), followed by the emotional /behavioral disorders (9.13%), autism (8.70%), and other health impairment including ADD/ADHD (12.61%). In terms of gender, male students consisted of 62.17%, whereas female students consisted of 37.83% in the sample. General education setting formed 30.87% of the sample whereas resource rooms and self-contained classes consisted of 35.65% and 33.48% of the sample respectively. Demographic data with regard to the sample is provided in <Table 1>.

<Table 1> Demographic Characteristics of the Sample

	n	%
Disability Category		
Learning Disability	84	36.52
Intellectual Disability	76	33.04
Emotional/Behavioral Disorder	21	9.13
Autism	20	8.70
Other Health Impairment (including ADD/ADHD)	29	12.61
Gender		
Male	143	62.17
Female	87	37.83
Educational Setting		
General education setting	71	30.87
Resource room	82	35.65
Self-contained classroom	77	33.48
Total	230	100

2. Procedures

This is a part of a five-year longitudinal study identifying the effect of interventions to promote self-determination and post-school outcomes of students with disabilities. Project personnel recruited participants and trained teachers to implement interventions from 2005, upon district approval and consent. There were two different data collection procedures employed in the longitudinal study; (a) when students are in high school, data was collected one time during each of the three years (2005-06, 2006-07, and 2007-08) and (b) after students' graduation, data asking about adult outcomes was collected as follow-up information for the next two years (2009 and 2010). For this study, baseline data prior to implementing interventions (e.g., students' demographic information and measures of self-determination) was used for the analyses.

3. Measures of Self-Determination

Students' data regarding self-determination were collected using two measures of self-determination: The *Arc*'s Self-Determination Scale and The AIR Self-Determination Scale.

1) The *Arc*'s Self-Determination Scale

The *Arc*'s Self-Determination Scale (SDS; Whemeyer & Kelchner, 1995) includes a 72-item self-report measure that provides data on self-determination. It measures each of the four essential characteristics of self-determined behavior: autonomy, self-regulation, psychological empowerment, and self-realization. There are 148 points in total on the scale, and higher scores indicate higher self-determination. The SDS was normed with 500 students with and without cognitive disabilities in rural, urban, and suburban school districts across five states (Wehmeyer, Kelchner, & Richards, 1996). The SDS has adequate reliability (Cronbach alpha=.90)(Wehmeyer, 1996). Also, the scale is determined to have adequate construct validity based on multiple means. The overall mean score from the norming sample was 97.52 (SD=19.43) with each sub-domain: autonomy—63.35 (SD=15.50), self-regulation

—9.78(*SD*=4.95), psychological empowerment—13.28 (*SD*=2.64), and self-realization—11.11 (*SD*=2.25)(Wehmeyer, Palmer, Lee, Williams-Diehm, & Shogren, 2010).

2) The AIR Self-Determination Scale

The AIR Self-Determination Scale (Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994) consists of three versions: Student, Educator, and Parent. In this analysis, only AIR-Student version was used. The AIR-Student version measures capacity and opportunity as the other two versions (AIR-Educator and AIR-Parent) do. Capacity subsections ask students questions regarding students' actions with regard to their self-determination ("Things I Do" subscale) and how students feel when they act in a self-determined way ("How I Feel" subscale). Opportunity subsections consist of questions to perform self-determination behaviors at both school and home. The AIR-S consisted of 18 questions with a five-point Likert scale (1=never, 5=always), leaving the home subsection out in this data analysis.

The AIR was normed with 450 students with and without disabilities and their teachers in California and New York (Wolman et al., 1994). All versions of the scale indicated adequate reliability and validity in measuring self-determination for students with and without disabilities (Mithaug, Campeau, & Wolman, 2003). In this study, Cronbach's alpha for (a) the AIR-E capacity subscale was 0.93 and opportunity subscale was 0.92 and (b) AIR-S combining capacity and opportunity subscales were 0.92.

4. Data Analysis

Given the data on students, a factorial multivariate analysis of variance (MANOVA) was conducted to address the first research question of how different personal characteristics impact the level of students' self-determination. Specifically, independent variables include students' gender (female/male) and primary disabilities (learning disabilities, intellectual disabilities, other health impairment/ADD/ADHD, and emotional/ behavioral disabilities, and autism). Second, a factorial multivariate analysis of variance (MANOVA) was also

conducted to examine the second research question of how different educational settings (resource room, self-contained class, and general education) impact the level of students' self-determination. Because educational settings will be highly affected by students' level of intelligence, and IQ is significantly correlated with self-determination (Nota et al., 2007; Wehmeyer, 1996; Wehmeyer & Garner, 2003), it would be logical to include students' IQ level as an independent variable and analyze the impact of educational setting with the impact of teacher-estimated students' levels of intellectual capacity (i.e., within normal limits, mild intellectual impairment, and moderate intellectual impairment) partialed out.

These two research questions consisted of two dependent variables to get more powerful statistics: SDS and AIR-S. Including only these two variables was because; (a) there was no significant correlation between AIR-E and AIR-S in this data; and (b) as Shogren et al.,'s (2008) findings suggest, both the SDS and AIR Self-Determination-Student Scale share underlying theoretical structure and the construct of self-determination, whereas the AIR Self-Determination-Educator Scale does not. One critical element in data analysis is the missing data analysis. In this sample, there was only one missing data across variables (0.43%). In addition, the pattern of missing data was unpredictable from other variables in the data. Therefore, the listwise deletion was employed in this study.

Ⅲ. Results

In this sample, the homogeneity of variance-covariance matrices was supported for each research question. According to Tabachnick and Fidell (2001), the robustness is not guaranteed if Box's M is significant at $p<$ .001 with unequal sample sizes. For the first research question, the test for homogeneity of dispersion matrices was not significant, Box s $M=36.59$, F (24, 10355.976)=1.441, $p>.001$. For the second research question, the test for homogeneity of dispersion matrices was not significant as well, Box's M =33.391, F(21, 1107.030)=1.401, $p>.001$. So, it is reasonable to support

the conclusion of homogeneity of variance-covariance matrices.

1. Individual Factors

Independent variables were disability categories and gender. Raw mean scores and standard deviations for each measure across disability categories and gender are presented in <Table 2> and <Table 3>.

<Table 2> Self-Determination Means and Standard Deviations by Students' Disabilities

	SDS		AIR	
	M	SD	M	SD
LD	98.50	17.27	68.22	11.30
ID	90.99	20.05	70.13	10.43
ED/BD	98.21	14.06	68.81	11.20
Autism	84.83	21.34	68.70	12.26
OHI/ADD/ADHD	97.84	17.69	66.55	9.50

Note : SDS = *Arc*'s Self-Determination Scale; AIR = AIR Self-Determination Scale- Student Version; LD = Learning Disability; ID = Intellectual Disability; ED/BD = Emotional Disorders or Behavioral Disorders; OHI/ADD/ADHD = Other Health Impairment or Attention Deficit Disorder/Attention Deficit and Hyperactivity Disorder

<Table 3> Self-Determination Means and Standard Deviations by Students' Gender

	SDS		AIR	
	M	SD	M	SD
Male	94.22	19.25	69.13	11.06
Female	95.55	18.15	68.09	10.52

Note : SDS = *Arc*'s Self-Determination Scale; AIR = AIR Self-Determination Scale-Student Version

A 5×2 between-subjects multivariate analysis of variance was performed on two dependent variables (SDS, AIR-S). The combined dependent variables were significantly affected by disability categories, Wilk's Λ=.913, F(8,438)=2.56, p<.05, and this strength of association was partial η^2=.045. However, neither gender Wilk's Λ=.997, F(2,219)=.31, p>.05, partial η^2=.003 nor their interaction Wilk's Λ=.975, F(8,438)=.71, p>.05, partial η^2=.013 had a significant effect. Univariate analyses of variance were used to follow up on the significant multivariate disability category effect. Disability categories did not have a significant effect on AIR-S, F(4,220)=.59, p>.05, partial η^2=.11. However, there was a significant effect on SDS, F(4,220)=2.49, p<.05, partial η^2=.43(see <Table 4>). Specifically, students with learning disabilities showed the highest level of self-determination on SDS whereas students with autism demonstrated the lowest score of SDS. However, there were no significant differences among disability categories, when using Bonferroni 0.005 criterion. <Table 5> provides results from the multiple comparisons on SDS when using the Bonferroni method.

<Table 4> Results from Univariate ANOVAs for Analysis

Source	Measure	Type III SS	*df*	MS	*F*	*P*	Partial η^2
Gender	SDS	9.20	1	9.20	.03	.87	.00
	AIR	65.61	1	65.61	.55	.46	.03
Disability category	SDS	3404.35	4	851.09	2.49	.04	.43
	AIR	278.47	4	69.62	.59	.67	.11
Gender x Disability category	SDS	1172.00	4	293.00	.86	.49	.15
	AIR	532.82	4	133.20	1.13	.35	.20

Note : SDS = *Arc*'s Self-Determination Scale; AIR = AIR Self-Determination Scale-Student Version

<Table 5> Multiple Comparisons using Bonferroni Method (SDS)

Disability Categories (I)	Disability Categories (J)	Mean Difference (I−J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
LD	OHI/ADD/ADHD	.66	3.97	1.00	−10.58	11.91
	ED/BD	.29	4.49	1.00	−12.45	13.03
	ID	7.51	2.92	.11	−.76	15.78
	Autism	13.67*	4.58	.03	.68	26.66
ID	OHI/ADD/ADHD	−6.85	4.02	.90	−18.24	4.55
	ED/BD	−7.22	4.54	1.00	−20.10	5.65
	Autism	6.16	4.63	1.00	−6.96	19.28
	LD	−7.51	2.92	.11	−15.78	.76
ED/BD	OHI/ADD/ADHD	.38	5.28	1.00	−14.59	15.34
	ID	7.22	4.54	1.00	−5.65	20.10
	Autism	13.38	5.75	.21	−2.93	29.70
	LD	−.29	4.49	1.00	−13.03	12.45
Autism	OHI/ADD/ADHD	−13.01	5.35	.16	−28.19	2.17
	ED/BD	−13.38	5.75	.21	−29.70	2.93
	ID	−6.16	4.63	1.00	−19.28	6.96
	LD	−13.67*	4.58	.03	−26.66	−.68
OHI/ADD/ ADHD	ED/BD	−.38	5.28	1.00	−15.34	14.59
	ID	6.85	4.02	.90	−4.55	18.24
	Autism	13.01	5.35	.16	−2.17	28.19
	LD	−.66	3.97	1.00	−11.91	10.58

Note : * indicates that the mean difference is significant at the .05 level. However, there is no significant result when using Bonferroni .005 criterion. LD = Learning Disability; ID = Intellectual Disability; ED/BD = Emotional Disorders or Behavioral Disorders; OHI/ADD/ADHD = Other Health Impairment/Attention Deficit Disorder/Attention Deficit and Hyperactivity Disorder

2. Environmental Factors

Raw mean scores and standard deviations for each measure across educational settings are presented in <Table 6>. A factorial multivariate analysis of variance was performed on two dependent variables (SDS and AIR-S) associated with educational settings and students' intellectual capacities estimated by teachers. With the use of Wilk's criterion, the combined dependent variables were not significantly affected by educational setting, taking students' intellectual capacities into account, Wilk's Λ=.997, F(4,438)=.17, p>.05, partial η^2=.002. None of the univariate analyses of variance turned out significant on each dependent variable: for SDS, F(2,220)=.34, p>.05, partial η^2=.003, and for AIR-S, F(2,220)=.10, p>.05, partial η^2=.001. <Table 7> provides results from the univariate ANOVAs for this analysis.

<Table 6> Self-Determination Means and Standard Deviations by Educational Settings

	SDS		AIR	
	M	SD	M	SD
General education	97.51	14.72	67.94	10.06
Resource room	95.85	18.66	68.46	11.36
Self-contained class	91.49	21.70	69.75	11.06

Note : SDS = *Arc*'s Self-Determination Scale; AIR = AIR Self-Determination Scale-Student Version

<Table 7> Results from Univariate ANOVAs for Analysis

Source	Measure	Type III SS	*df*	MS	*F*	P	Partial η^2
Educational setting	SDS	239.34	2	119.67	.34	.71	0.003
	AIR	23.65	2	11.82	.10	.91	0.001

Note : SDS = *Arc*'s Self-Determination Scale; AIR = AIR Self-Determination Scale-Student Version

Ⅳ. Discussion

The purpose of this study was to examine (a) how personal characteristics (i.e., primary disability and gender) contribute to students' self-determined behaviors and (b) how educational settings are related to different levels of self-determination in students with disabilities. The discussion section includes the following four subsections: summary of the findings, limitations of study, implications for practice, and implications for future research.

1. Summary of Findings

1) Personal Characteristics and Self-Determination

There was no significant difference on the set of self-determination based on students' gender. This result is consistent with the study of Wehmeyer and Garner (2003), which found no difference in males and females' levels of self-determination. However, other research found different results pertaining to gender effects on self-determination (Nota et al., 2007; Shogren et al., 2007). Nota et al., (2007), who used an Italian sample and Shogren et al., (2007), who recruited an American sample concluded that women had higher self-determination scores than men. Particularly, Shogren et al., (2007) concluded that the gender significantly impacted the student's level of self-determination when measured by the SDS, urging the need for future research to examine potential reasons for these gender differences in self-determination as measured by the SDS.

With regard to disability categories, there was a significant effect on the combined self-determination scores. However, it turned out that each scale has a different result when conducting univariate analyses of variances. Disability categories have a significant effect on the SDS, whereas there was no significant effect on the AIR-S. When conducted follow-up tests of SDS, there were no significant differences among disability categories when using Bonferroni 0.005 criterion. The different finding of each univariate analysis of variance test parallels Shogren et al.,'s (2007) result that students in heterogeneous disability groups

indicated their levels of self-determination differently on the SDS, but not on the AIR-S. Recent studies support this result of different self-determination aspects measured respectively by the SDS and the AIR-S (Lee et al., 2010; Shogren et al., 2008; Wehmeyer et al., 2010). These three studies emphasized that the SDS is perhaps more sensitive to identifying differences in individual characteristics than the AIR-S. Specifically, the SDS measures the four sub-scales (i.e., autonomy, self-regulation, psychological empowerment, and self-realization) as global self-determination at the present state, proposed by the functional theory. Conversely, the AIR-S measures capacity and opportunity for becoming self-determined at any given time based on self-determined learning theory.

2) Environmental Factors and Self-Determination

There was no significant difference on the set of self-determination based on educational settings, taking students' intellectual capacities into account. There have been mixed study results about the influence of environmental factors on self-determination. For example, initial studies that mainly examined adults with intellectual and developmental disabilities indicate that the more people with disabilities are exposed to integrated settings, the more likely they are to become self-determined (Stancliffe et al., 2000; Whemeyer & Bolding, 1999, 2001). However, Zhang (2001) noted different findings that students with intellectual disabilities demonstrate more self-determined behaviors in resource classrooms than in general classrooms, largely due to their difficulties in expressing self-determined behaviors in general education classrooms. Zhang's conclusion (2001) mirrors Wehmeyer and Garner's study (2003) which emphasizes the importance of opportunities for behaving in a self-determined way within one's environment, when examining the level of self-determination.

2. Limitations of Study

There exist several limitations that must be considered in examining implications of this study. First, only five groups were included as disability categories: learning disabilities, intellectual disabilities, emotional/behavioral disorders, autism, and other health impairments. Given the fact that the Individuals with Disabilities Education Act of 2004 (IDEA; 2004) specifies 13 disability categories to provide educational services, future research will be needed to explore more diverse disability groups to represent the disability population at large. Second, the characteristics and needs of students vary depending on each student's level of functioning, even within the same disability category. Therefore, along with the diverse disability groups, future study needs to include the levels of disability within each of the aforementioned disability categories to identify differences of students' levels of self-determination. Third, this study investigated high school students' levels of self-determination depending on their gender and disability categories as individual factors. Considering the fact that self-determination is a developmental process (Abery & Zajac, 1996), future studies need to include students with more wide age range to examine the influence of age on self-determination. Fourth, this study was limited to control the effects of contexts that students have (e.g., family environment). Given the fact that self-determination always has a social context (Wehmeyer et al., 2003), future studies need to include the effects of family environment and socioeconomic status to identify their influences on students' levels of self-determination. Last, there were limitations when we assess students' levels of self-determination and intelligence capacities. Two self-determination scales were primarily based on student reporting, whereas the student's level of intelligence solely relied on the teacher's report. With regard to this, future studies need to include multiple sources, such as direct observations, to collect more reliable data.

3. Implications for Practice

First, it is noticeable that self-determination measured by SDS only showed a significant difference among disability groups. It is axiomatic that both SDS and AIR-S have been desirable measurements to assess the level of self-determination of students with and without disabilities. However, as Shogren et al., (2008) demonstrated, practitioners need to be aware that these two assessments are measuring different features of the self-determination construct. So, it is critical for educators to consider underlying theoretical frameworks of each assessment as well as the purpose of the information they are trying to attain. The AIR-S, derived from self-determined learning theory, focuses on the process of people becoming self-determined, whereas the SDS based on functional theory of self-determination assesses the characteristics of self-determination.

Second, the findings from the second research question demonstrate the critical implication for this study: the importance of opportunities to act in a self-determined manner and corresponding support for students. As previously described, the educational settings have no impact on students' levels of self-determination, once the effects of students' IQ were partialed out. Possibly, opportunities to act in a self-determined way within one's environment and corresponding support play key roles in student's level of self-determination. This finding mirrors Lee et al., (2010)'s conclusion that student's self-determination is best predicted by factors that can be influenced by educators.

With respect to educators, ample studies have identified educators' perspectives on self-determination and their challenges to support students (Carter, Lane, Pierson, & Stang, 2008; Cho, Wehmeyer, & Kingston, 2010; Stang, Carter, Lane, & Pierson, 2008; Wehmeyer, Agran, & Hughes, 2000). These studies pointed out the following aspects in common: (a) the necessity of teacher training to help teachers identify effective strategies and provide students with disabilities with opportunities to achieve self-determination and (b) the discrepancies between teachers' evaluations of importance in self-determination and actual instruction. Given the emphasis presented by the previous studies, teachers need to increase their expectations and provide appropriate support and a number of opportunities

in order to help students develop and practice self-determination skills.

4. Implications for Future Research

The findings of this study also have implications for future research. As discussed, efforts to include more variety of types of disability and the levels of severity within the categories are vital to future research. Future research is needed to identify and develop specifically tuned interventions for those who have different disability categories and levels of support. Second, future research is needed to assess areas of self-determination shared by SDS and AIR-S, as well as unique areas that each measurement assesses to help educators provide students with individualized interventions. Third, given the importance of self-determination opportunities, future study should examine the influence of teacher variables (e.g., years of experience, gender, teacher's perceptions and beliefs on self-determination) on student's level of self-determination. Lastly, as emphasized by Wehmeyer et al., (2010) and Shogren (2011), future study should include cultural and societal variables to better interpret individual and environmental factors that potentially influence students' levels of self-determination.

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장애학생의 개인적 요인 및 환경적 요인이 자기결정에 미치는 영향 : 장애학생의 자기결정과 장애범주, 성별, 및 교육적 환경간의 관계 분석

서 효 정*
캔자스 대학교 박사과정
Michael L. Wehmeyer
캔자스 대학교
Susan B. Palmer
캔자스 대학교
Jane H. Soukup
캔자스 대학교
Kendra Williams-Diehm
오클라호마 대학교
Karrie Shogren
일리노이 대학교 어바나 샴페인 캠퍼스

<요 약>

장애학생의 자기결정에 관한 미국 연구는 1990년 초반부터 활발하게 이루어졌다. 20년에 걸쳐 자기결정에 관한 연구가 활발하게 진행되는 동안, 자기결정의 이론을 구축하여 자기결정의 개념을 확립하려는 노력이 행해졌다. 이 이론들은 개인의 특성 요인과 환경적 영향 요인을 공통적으로 설명하여 자기결정의 개념을 구축하였다. 따라서, 이 연구에서는 개인적 요소(학생의 주요 장애 영역, 성별)와 학생이 배치된 교육적인 환경(일반학급, 특수학급, 특수학교)에 따라서 학생의 자기결정력이 어떻게 다른지를 살펴보고자 하였다. 이 연구는 학생의 자기결정을 향상시키기 위한 다양한 중재전략들의 효과를 살펴보고, 졸업 후 학생의 교육결과를 살펴보고자 한 5년 종단연구(2005년~2010년)의 한 부분으로, 학생들에게 자기결정 중재 전략을 실시하기 이전의 기초자료를 분석하였다. 구체적으로, 연구 참여자는 미국 6개의 주(Arkansas, Kansas, Missouri, Nebraska, Oklahoma, and Texas)에서 임의적으로 선별된 청소년기 장애학생 230명이고, 종속변수인 학생들의 자기결정을 측정하기 위해서 The *Arc*'s Self-determination scale과 The AIR Self-determination Scale (학생용)이 사용되었다. 연구 분석결과, 학생의 주요 장애영역에 따라서만

학생들의 자기결정 정도가 다른 것으로 나타났다. 본 연구 결과에 대한 논의와 함께, 교육현장에서 학생들의 자기결정을 증진시키기 위한 제안 및 향후 연구를 위한 제언들이 제공되었다.

주제어 : 장애학생, 자기결정, 개인적 요소, 환경적 요소

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