THE SELF-DETERMINATION OF COLLEGE STUDENTS WITH AND WITHOUT DISABILITIES

by Elizabeth Gail Rohlfer

This paper reports on a research study designed to examine differences in level of total self-determination, autonomy, psychological empowerment, self-realization, and transition service satisfaction between college students with an identified disability and college students without an identified disability. Participants in the non-identified group were matched to the identified group participants on four variables. All participants completed an online questionnaire including a modified version of the Arc’s Self-Determination Scale and open-ended response questions. Results were analyzed via multivariate analysis of variance and independent sample t-tests. Significant differences were not found between the two groups. The author of this study attempts to explain why non-significant results were obtained and what can be implemented in the future to improve transition services and supports for all students. This paper also examines the limitations of the current study and suggestions for future research.
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Introduction

The transition from high school to postsecondary education settings has been the subject of increased study in recent years (King, Baldwin, Currie, & Evans, 2005; King, Baldwin, Currie, & Evans, 2006; Kohler & Field, 2003). This transition is difficult for many students, and even more so for students with disabilities (Gil-Kashiwabara, Hogansen, Geenen, Powers, & Powers, 2007). In recent decades increasing numbers of students with disabilities have pursued postsecondary education opportunities, making the skills needed to be successful in such a transition an important area of research (Hadley, 2006). Transition skills that have been identified as important to the success of students with disabilities include self-awareness, problem-solving, and self-determination (Getzel & Thoma, 2008; Hadley, 2006; Sitlington, 2003). Of these transition skills, self-determination has been identified as one of particular importance.

Self-determination is the ability to make choices and decisions without being coerced. Self-determination includes several fundamental skills including self-regulation, autonomy, goal-setting, and self-awareness (Wehmeyer & Field, 2007). Individuals with higher levels of self-determination have significant differences from those with less self-determination. In particular, higher levels of self-reported autonomy, choice making opportunities, and self-awareness have been reported (Wehmeyer, Kelchner, & Richards, 1996). Wehmeyer & Palmer (2003) found that students with higher levels of self-determination had more positive outcomes after years 1 and 3 post graduation.

The focus of this study is to look at the differences in levels of self-determination between college students who are and who are not identified with disabilities, with the goal of determining the importance and extent of self-determination preparation needed for students with disabilities as they transition from high school to postsecondary education settings.

Review of the Literature

Demographics and prevalence

Individuals with disabilities represent a heterogeneous group, including all ages and ethnicities and both genders, with disproportionately more males than females. The United States Census Bureau, using data from the American Community Survey collected in 2006, reports that approximately 15.7% of the United States population over
the age of 5 has a disability (Brault, 2008). According to the U.S. Department of Education approximately 13.5% of public school students aged 3 years to 21 years are identified with a disability and served under the Individuals with Disabilities Education Act (IDEA) (NCES 2008-031). The discrepancy between the overall population and school population may be attributed to the fact that some students in public schools may be diagnosed with a disability, but may not be in special education and therefore not served under IDEA. Additionally, the overall population includes individuals of all ages, thus including the elderly which make up a large portion of disabled individuals.

Policy differences between high school and postsecondary education

Students with disabilities in public school systems, grades P-12, have been served by special education legislation since 1975 (Public Law 94-142) now known as IDEA. This law was designed to provide individualized education services for students with disabilities. Furthermore, it requires using a child find policy, starting in preschool, which puts the burden of finding students with disabilities, classifying them with a disability, and identifying and providing needed services to that student, on the school district and individualized education plan (IEP) team. The team develops goals and objectives, as well as, modifications and services needed for the student to succeed in the public school (Madaus & Shaw, 2006; Gil-Kashiwabara et al., 2007). Students with disabilities who enroll at colleges and universities, however, are not served under this law but rather under the Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973. These laws state that an institution of higher learning cannot discriminate against an individual or deny them admission based solely on their disability, and furthermore, that the institution is not allowed to seek information about a potential disability. Therefore, the student must self disclose their disability if he/she wishes to receive services from the college or university. After a student discloses a disability the college or university is required to provide appropriate accommodations to the student (Eckes & Ochoa, 2005; Shaw, 2006).

The provisions in IDEA, ADA, and Section 504 lead to different responsibilities for students with disabilities in high school versus those in college. For instance, in high school the school district is responsible for the identification and evaluation of a disability, whereas in college the student must disclose that they have a disability and
provide official documentation of their disability before the university will provide services (Shaw, 2006). Some common services that students with disabilities seek out and typically receive at the postsecondary level include tutoring, academic coaching, counseling, and letters to professors about approved accommodations for that student. This is very different than high school where the student’s IEP or 504 Plan will state what modifications and services are needed and consequently are put in place as mandatory provisions for the student. These fundamental differences lead to what may be the most important difference between high school and postsecondary students with special needs; in postsecondary settings students with disabilities must be their own advocates in the search for and obtainment of services and supports (Gil-Kashiwabara et al., 2007). To effectively disclose and advocate for himself or herself, the student needs to have a certain set of skills that will help them be successful in these endeavors.

**Skills for success in postsecondary education settings**

In addition to the differences already described between student responsibilities in high school and postsecondary settings, many other differences exist between the educational environments and requirements of these two settings (Field, Sarver & Shaw, 2003; Hall & Webster, 2008). One difference is that postsecondary students, with and without disabilities, experience increased class sizes and decreased instructional time. Additionally, students in college must exercise more personal responsibility than was required of them during high school, including managing class time, study time, and daily living needs (Hall & Webster, 2008). College professors, unlike many high school teachers, put much of the responsibility of learning material onto the student. Professors are more likely to lecture for class, less likely to teach straight from a textbook and more likely to require the student to integrate information from various sources. As a result, the student needs to know how to study, take notes, and review and master considerable material on their own (Field, Sarver & Shaw, 2003).

Other differences between high school and postsecondary education settings, which have been identified in the literature, include high expectations of academic capabilities, fewer tests covering more material than those in high school, and changes in social demands (Getzel, 2005). These changes and challenges are common for students with and without disabilities. Moreover, students with disabilities are faced with the
additional challenge of disclosing their disability, finding needed services at the university level, and advocating for those services. In a review of the literature, Kohler and Field (2003) found three techniques that were beneficial to student progress through the high school to postsecondary transition. They are: 1) developing a student’s abilities through education and other activities; 2) providing supports that facilitate those abilities; 3) providing opportunities to apply those abilities.

Similar research was conducted by Getzel & Thoma (2008) and Hadley (2006). Each conducted qualitative research studies involving undergraduate students with disabilities, identifying several variables as necessary for success at the university level. Students reported that they needed problem solving, goal-setting and self management skills, as well as an awareness of their disability, to be able to find and advocate for needed services. The students also reported that being able to form relationships with instructors and peers as a part of a support system was an important factor in leading to success in postsecondary education (Getzel & Thoma, 2008). Hadley (2006) obtained similar results to those of Getzel and Thoma (2008). When he interviewed 10 college students with specific learning disabilities about how they made the transition from high school to college, participants indicated that students with disabilities must be able to self advocate and communicate with their professors in order to get the help and services they need. By self advocating students were able to improve their communication skills and personal independence through a better understanding of their disability (Hadley, 2006).

Sarver (2000) also interviewed students with disabilities in college and identified three personality factors that students with learning disabilities regarded as important to their college success. The three factors were autonomy, problem solving, and persistence. Of the students interviewed, those with grade point averages (GPA) above the mean for the sample reported more independent thinking and planning, with more flexibility and adaptation when facing obstacles than did the students with GPAs below the mean. All students, regardless of GPA, expressed the need for persistence. In addition, motivation, time management, information processing, self-regulation strategies, and general study skills are important to success in postsecondary settings (Reaser, Prevatt, Petscher, & Proctor, 2007). Many of the skills identified by students
with disabilities, in the three studies presented, are closely related to the concept of self-determination that will be defined later in this review of the literature.

**Transition Requirements and Current Practices**

The National Longitudinal Transition Study 2 (2003) data indicated that 44.1 percent of students with disabilities who had a transition plan in high school selected as their primary post high school goal to attend a 2 or 4 year college. However, of those students with transition plans who participated in the study 14.3 percent indicated that no progress had been made towards goals for postsecondary education. Furthermore, 21.6 percent indicated that little progress had been made, 35.1 percent indicated that some progress, and only 29 percent indicated that significant progress was evidenced.

The transition from high school to postsecondary settings is a recognized challenge for students with disabilities. Special education law has acknowledged the difficulty of this transition and the need for appropriate services by setting standards for transition practices and services for students with disabilities. Students with disabilities who had an Individualized Education Plan (IEP) and received services in high school are required to have transition plans in place starting at age 14 (IDEA, 2004). IDEA describes transition services as

> “a coordinated set of activities for a student with a disability that (a) is designed within an outcome-oriented process, that promotes movement from school to postschool activities, including postsecondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation; (b) is based on the individual student’s needs. Taking into account the student’s preferences and interests; and (c) include instruction, related services, community services, the development of employment and other postschool adult living objectives, and if appropriate, acquisition of daily living skills and functional vocational evaluation (34 C.F.R. 300.29)”.

More generally, the goal of transition plans is to address the needs of students with disabilities as they move from high school to post high school settings.
A well balanced transition plan should address many aspects of the transition process including academics, career options, and social skill development (King, Baldwin, Currie, & Evans, 2006; Sitlington, 2003; Sitlington & Payne, 2004). The academic domain includes the identification of needed college preparation classes, as well as, college admission requirements for colleges and universities that the student is interested in attending (King, Baldwin, Currie, & Evans, 2006). The career domain focuses on direct employment opportunities, apprenticeships and vocational education. The social skills domain has been an area of intense research in recent years; it includes self-determination and self-advocacy education, participation in extracurricular activities, and community knowledge and involvement. A well rounded transition plan should address all these domains. In their review of the literature King et al. (2006) found that transition plans and services that incorporated a multidimensional approach were most effective at promoting postsecondary success.

Powers et al. (2005) analyzed the transition plan components of 399 IEPs from two large urban school districts in the western United States. These IEPs were evaluated using a modified version of the Statement of Transition Services Review Protocol (STRSP). The STRSP is an instrument used to rate the quality of transition goals in IEPs or transition plans. The twelve goal areas that were included in the STRSP as it was modified for this study were postsecondary education, vocational training, integrated employment, adult education, adult services, independent living, housing, community participation, community recreation/leisure, transportation, health and medical, and other.

In addition to the STRSP researchers also looked for information about career planning, self-determination education, and participation in extracurricular activities, as these are components of effective transition plans (King et al., 2006). Transition plan goals related to employment appeared most often, in 63.7 percent of IEPs; in contrast, goals related to vocational training only appeared in 31.8 percent of IEPs (Powers et al., 2005). In addition, 33 percent of the IEP goals did not list any action steps to accomplish those goals. Most transition plans met the basic IDEA requirements but lacked evidence of effective practices, such as career planning and self-determination education (Powers et al., 2005). These findings are consistent with those of previous research studies on transition plans which found that goals related to future living arrangements,
postsecondary education, and employment were vague (Shearin, Roessler, & Schriner, 1999) and that many plans lacked provisions for age appropriate services (Everson, Zhang, & Guillory, 2001).

Disability service coordinators at colleges and universities in New York were sent a questionnaire seeking information about their satisfaction with transition services provided to students during high school. The questionnaire also included three open ended questions pertaining to what the coordinators thought secondary schools could do better to prepare students for postsecondary settings and their predictions about the success of the students with disabilities served at their college or university. Seventy-four disability service coordinators responded to the questionnaire, and reported that overall the transition services that students received were unsatisfactory (Janiga & Costenbader, 2002). Self advocacy skills and student knowledge of their own strengths and weaknesses were two areas of transition planning and services that respondents indicated needed improvement. Interestingly, both students and professionals have identified similar skills and abilities as necessary for success in postsecondary education settings.

**Self-determination definition, characteristics, and components**

Since identified in the field as an important area of research, many definitions of self-determination have been presented in the special education literature. (Field, Hoffman, & Spezia, 1998) summarized earlier definitions by stating,

“Self-determination is a combination of skills, knowledge and beliefs that enable a person to engage in goal-directed, self regulated, autonomous behavior. An understanding of one’s strengths and limitations together with a belief in oneself as capable and effective are essential to self-determination. (p. 2)

From 1992 to 2006, Wehmeyer has proposed and refined multiple definitions of self-determination. Currently Wehmeyer (2005) states that “self-determined behavior refers to volitional actions that enable one to act as the primary causal agent in one’s life and to maintain or improve one’s quality of life” (p. 117). Furthermore, Wehmeyer and colleagues defined self-determined behavior as “acting as the primary causal agent in one’s life and making choices and decisions regarding one’s quality of life free from
The important parts of these definitions are that self-determination is viewed as a combination or set of skills possessed by the individual, the individual must possess positive beliefs about their ability to perform tasks, and the individual is the main person responsible for his/her own actions.

Based on current research (Wehmeyer, 2003) self-determination is viewed as consisting of four essential characteristics, which include: 1) behavioral autonomy; 2) self-regulated behavior; 3) acting in a psychologically empowered manner; 4) and self-realization (Wehmeyer, Agran, & Hughes, 1998; Wehmeyer & Field, 2007). As essential characteristics of self-determination, an individual’s behavior is thought to reflect, to some degree, each of these four characteristics. Behavior is autonomous if an individual acts according to his/her own preferences and beliefs, and does so independent of undue external influence or interference. Self-regulation refers to an individual’s ability to evaluate a task, decide what skills are necessary or needed, and formulate a plan of action to carry out and complete the task. Self-determined individuals are psychologically empowered based on their belief that they have the capacity to perform behaviors and influence their environment, and that those behaviors will result in anticipated outcomes. Lastly, self-realization refers to an individual’s ability to have and use a realistic view of themselves and their strengths and limitations in the most positive way for the most beneficial outcome (Wehmeyer & Field, 2007; Wehmeyer, 2003).

Autonomy, self-regulation, psychological empowerment, and self-realization are not the only pieces of self-determination. Self-determination can be further broken down into component elements. Wehmeyer & Field (2007) identified 9 component elements of self-determination. They include choice-making skills; decision-making skills; problem-solving skills; goal-setting and attainment skills; self-regulation/self-management skills; self-advocacy and leadership skills; positive perceptions of control, efficacy, and outcome expectations; self-awareness; and self-knowledge. More emphasis has been given to choice-making than any other component element in terms of its influence on self-determination and quality of life. Choice-making, decision-making, and problem-solving overlap to form the foundation for autonomy and self-regulation, two of the four essential characteristics of self-determination. Other self-regulation skills include self-
observation, self-monitoring, self-reinforcement, and self-instruction. All of these skills have been linked to positive outcomes for individuals with disabilities (Chambers et al., 2007). The component elements of self-determination have been the subject of increased study in recent decades (Chambers et al., 2007; Durlak & Rose, 1994). Many interventions and instructional strategies have been studied and implemented in practices that address these components individually (Chambers et al., 2007). Similarly, student IEP’s often include goals that address one or more of these components but are less likely to address global self-determination outcomes (Field, Sarver, & Shaw, 2003).

Several models or frameworks for understanding self-determination have been developed in an attempt to understand how self-determination forms and what factors contribute to an individual’s level of self-determination. One such model is the functional model of self-determination (Wehmeyer & Gamer, 2003) which contends that as an individual’s perception about their self-determination is influenced by both their opportunities and capacity for self-determination. Opportunity refers to the degree to which the individual exerts control over their environment. This relies heavily on other people’s willingness to let the individual with the disability make decisions. Capacity refers to the skills that the individual possesses to be self-determined. These skills may include many of the component elements of self-determination already mentioned. Opportunity, capacity, and other supports impact the four main characteristics of self-determination (autonomy, self-regulation, psychological empowerment, and self realization) which in turn determines the individual’s relative level of self-determination.

This functional model of self-determination also provides a base on which the formation of self-determination can be explained. The formation of self-determination is considered to be a developmental process that takes place over the life span as children and adolescents learn skills and develop attitudes that enable them to become causal agents in their own lives. These attitudes and skills are closely related to the nine component elements of self-determination. The four essential characteristics of self-determined behavior emerge through the development and acquisition of the attitudes and skills that lead the individual to be the primary causal agent in their own life (Thoma & Wehmeyer, 2005).
Research suggests that there are differences in individuals’ levels of self-determination according to various personal and environmental characteristics (Shogren et al., 2007; Wehmeyer & Palmer, 2003). Personal and environmental characteristics are similar to the capacity and opportunity constructs, respectively, of the functional model of self-determination. Shogren et al. (2007) used structural equation modeling to examine the baseline data from a multistate, longitudinal project evaluating interventions that promote self-determination. These researchers found that students with learning disabilities or other health impairments, scored higher on teacher ratings of capacity for self-determination and self ratings of global self-determination than students with mild or moderate mental retardation. The scores for students with learning disabilities and other health impairments could be equated on both the teacher and self report measures, whereas, this was not the case for the mild mental retardation and moderate mental retardation groups. Based on these findings, the researchers suggested that the observed differences were the result of the level of cognitive impairment. Consequently students with higher cognitive development and/or skills demonstrate greater self-determination and evidence behaviors consistent with that process. It was also found that capacity, opportunity, and transition empowerment were significant predictors of self-determination, indicating the importance for students to be given skill instruction, as well as, opportunities to use those skills and be included in the transition planning process (Shogren et al., 2007).

Wehmeyer and Garner (2003) conducted a similar study where the self-determination and autonomous functioning of 301 adults with intellectual disabilities or adults with developmental disabilities with no concurrent intellectual disability was examined. It was found that adults with severe intellectual disabilities scored lower on self report measures of self-determination than adults with mild intellectual disability or developmental disability with no concurrent intellectual disability. It was also found that the correlation between IQ and self-determination for individuals with intellectual disability was significant, but relatively low ($r = 0.157$). Although a significant correlation existed between IQ and self-determination, it was concluded that IQ alone was not an accurate predictor of self-determination for individuals with intellectual disabilities. This conclusion was supported by the results of a discriminant function
analysis which found that a higher perception of choice opportunity was a more powerful predictor of self-determination (Wehmeyer & Gamer, 2003).

Both Shogren et al. (2007) and Whemeyer and Garner (2003) found differences in levels of self-determination according to disability status and intellectual capacity. However, they also found that these factors alone were not the only predictors of self-determination; environmental factors such as, opportunity and transition empowerment were significant predictors of self-determination. These findings are consistent with prior research in the field which suggests that an individual’s environment can be just as influential, if not more influential, than their intellectual capacity.

**Self-determination, transition, and positive outcomes**

With the reauthorization of IDEA in 2004 and the acceptance of student participation in IEP planning, global self-determination has gained prominence as an important skill needed to successfully navigate the transition from high school to postsecondary education settings (Wehmeyer, Palmer, Soukup, Garner, & Lawrence, 2007). Research has indicated that students with mental retardation score lower on global indicators of self-determination and on questions related to transition knowledge and skills as compared to students with developmental disabilities with no intellectual disabilities. In addition, research demonstrated that self-determination, self-regulation, self realization, and psychological empowerment are better predictors of students’ transition knowledge and skills (Wehmeyer et al., 2007).

Not only does self-determination predict student knowledge of transition but it has also been linked to positive post school outcomes (Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997; Wehmeyer, Kelchner, & Richards, 1996). Wehmeyer & Palmer (2003) found that students with higher levels of self-determination at the time of their high school graduation had more positive post-school outcomes at years 1 and 3 after graduation. Those students whose self-determination was assessed at graduation also responded to survey questions about financial independence and living situations 1 and 3 years post graduation. Students in the higher self-determination group at the time of high school graduation achieved more successful outcomes than students in the lower self-determination group in both financial independence and living situation. This study supported the findings of Wehmeyer & Schwartz (1997). It has also been found that
individuals with more self-determination have significant differences from those with less self-determination in terms of behavioral characteristics such as, autonomy and perceptions of control (Wehmeyer, Kelchner, & Richards, 1996).

Limitations of previous research

Although research conducted on self-determination levels, capacity, and opportunities for students in high school exists, there is very little research available pertaining to postsecondary students or adults. The research that does exist for adults focuses on adults with intellectual and cognitive disabilities, and as such does not relate to individuals with mild or high incidence disabilities, such as learning disabilities or physical disabilities. Self-determination and its four components have been identified by both students and educators as necessary for student success at the postsecondary level.

Therefore, research is needed to examine levels of student self-determination in college, in order to determine its role and impact for students with disabilities as they encounter the challenges of postsecondary institutions. Furthermore, there is little current research comparing the self-determination levels of students with disabilities to students without disabilities. The potential difference in these two populations is of great interest to educators because it could further highlight the potential need for students with identified disabilities in high school to receive self-determination instruction and/or training as part of the transition process form high school to postsecondary education.

The purpose of this study is to examine the differences in levels of self-determination, and its components, autonomy, psychological empowerment, and self-realization, between college students that have or have not been identified with a disability. Based on prior research, this researcher contends that college students who are not identified with a disability will have higher levels of self-determination, autonomy, psychological empowerment, and self-realization than college students who are identified with a disability as their opportunities to develop behavioral autonomy and other skills related to self-determination are thought to be greater than students with disabilities. The focus on academic and vocational training and the lack of self-determination opportunities is thought to limit the development of this skill domain for students with disabilities.
Method

Setting

The present study was conducted at a Midwestern public university. This particular Midwestern university is made of three separate campuses; the main campus and two regional campuses. The main campus of the university where the present study was conducted is located about 45 minutes north of a major metropolitan area with two regional campuses each located within 45 minutes to an hour from the main campus. University enrollment at the main campus is approximately 14,872 undergraduate students and 2,395 graduate students on the main campus, with a combined enrollment of 5,951 undergraduate students at the two regional campuses. Multicultural students make up approximately 10% of the total student body at the main campus. Admission standards for the main campus of this university are quite rigorous, while the regional campuses seek to meet the educational needs of a wider variety of students and thus do not have the same admissions requirements as the main campus.

Participants

Participants were 69 college aged students attending a public Midwestern university. Three of the 69 participants attended one of the two regional campuses associated with the main campus of this Midwestern university. Students ranged in age from 18 to 24+. The sample contained 31 males and 38 females. Thirty-two students, approximately 46%, of the sample belonged to the identified group (students with disabilities). These were students who entered the University with an identified disability and were registered with a disability service office on the university campus. Thirty-seven students, approximately 54%, belonged to the unidentified group (students without disabilities). These students were selected to match the identified group on gender, age, major, and year in school. A complete matched sample was not possible. Specifically, twenty one of the identified students were matched on all four criteria with the remainder matched on at least two of the four criteria.

Individual group demographics are as follows. The identified group ranged in age from 18-24+ and consisted of 16 men and 16 women. The unidentified group also ranged in age from 18-24+ and consisted of 15 men and 22 women. Of the identified students there were 8 seniors, 11 juniors, 5 sophomores, 5 freshman, and 3 were in their 5th year or
more. Of the unidentified students there were 10 seniors, 12 juniors, 7 sophomores, 6 freshman, and 2 were on their 5th year or more.

**Design and Procedure**

Disability service coordinators at each of the campuses of this Midwestern university were contacted requesting their assistance with the current research study. All disability service coordinators who were asked to help agreed to do so. The disability service coordinators identified students who met the criteria for the identified group. To be eligible for the identified group, a student had to have entered the university with an identified disability and was currently registered with a disability service office. The disability service coordinators contacted the identified students directly with an email containing information about a research study and a link to the study if the student wished to participate. This method was used to maintain confidentiality and protect the identity of the students with a disability. After all identified students were contacted, gave consent, and completed the online survey; the matched comparison group was selected. They were selected to act as a control for the identified group.

**Materials/Measurements**

A modified version of the Adolescent Version of the Arc’s Self-determination Scale was used to measure student levels of self-determination. The Adolescent Version of the Arc’s Self-determination Scale is a 72 item self-report scale that gives data on global self-determination through the identification and measurement of four domains, 1) autonomy, 2) self-regulation, 3) psychological empowerment, and 4) self-realization. The modified version that was used had 63 items which included three of the four domains; autonomy (independence and ability to act on personal beliefs and values); psychological empowerment (perceived control and self-efficacy); and self-realization (self-knowledge and awareness). Higher scores on the modified version of the Adolescent Version of the Arc’s Self-determination Scale indicate higher levels of total self-determination; the same being true for each domain score as well.

The Adolescent Version of the Arc Self-Determination Scale was normed with 500 adolescents with and without disabilities. The results of factor analyses conducted after initial design of The Arc’s Self-Determination Scale indicated that the instrument had adequate construct validity and factors within each domain roughly reflected the constructs
they were identified to measure. A correlation analysis at that phase supported those conclusions. The scale also reported concurrent-criterion related validity and internal consistency reliability. Concurrent-criterion related validity refers to the extent to which an individual’s current score on a measure can be used to predict their criterion score on that measure. This was done by comparing scores on The Arc’s Self-Determination Scale and other related measures. Significant relationships (p < .05) were found for each domain and global self-determination with moderate to strong relationships (.25 - .5) in expected areas. The scale internal consistency reliability was calculated using Chronbach alpha, with the exception of the self-regulation subscale due to its open ended response format. Coefficient alpha for the Scale as a whole was .90, for the autonomy domain .90, for psychological empowerment .73, and self-realization .62. Scale developers were not concerned with the lower alpha levels for the psychological and self-realization domains since this is not unusual for measurements examining personal beliefs or expectations.

The Adolescent Version of the Arc’s Self-Determination Scale was chosen for this study because of its theoretical orientation and prior use in research with high school and adult populations. The theoretical orientation of the ARC is consistent with the functional model of self-determination that was described earlier (Shogren et al., 2008). A modified version of the Adolescent Version of the Arc’s Self-determination Scale, excluding the self-regulation domain, was used for the current study. It was determined that for the population being studied that self-regulation was not a specific area of interest. Lastly, questions pertaining to self-regulation were omitted to help limit the number of questions both open ended and forced response that participants were required to answer. Limiting the number of questions was done with the hope of increasing the college students who would complete the questionnaire.

Results

Multivariate Analysis of Variance (MANOVA)

A one-way multivariate analysis of variance (MANOVA) was conducted to determine if group differences exist between the multiple dependent variables. The multivariate test of differences using Wilks’ Lambda was not significant (F (4, 64) = 0.934, \( p = 0.450 \)). The result indicates that significant differences do not exist between college students with disabilities and college students without disabilities in regards to
their total self-determination, autonomy, psychological empowerment, and self-realization. Further analyses were conducted to examine individual group differences.

**Autonomy**

An independent-samples t test was conducted to evaluate the hypothesis that no difference exists between the autonomy domain score for the identified group and the non-identified student group. Levene’s Test for the Equality of Variances was not significant indicating that the variance between the groups was statistically equal. The independent-samples t test was not significant \( t(67) = .111, p > .05 \). The result indicates that college students without an identified disability did not have significantly different levels of autonomy (\( M = 75.62, SD = 13.0377 \)) than college students who are identified with a disability (\( M = 75.97, SD = 12.77 \)).

**Psychological Empowerment**

An independent-samples t test was conducted to evaluate the hypothesis that no difference exists between the psychological empowerment domain score for the identified group and the non-identified student group. Levene’s Test for the Equality of Variances was significant (\( p < .05 \)) indicating that the variance between the groups was not statistically equal and results should be evaluated with equal variance not assumed. The independent-samples t test was not significant \( t(52.04) = -1.66, p > .05 \). The result indicates that there was not a statistically significant difference in psychological empowerment domain scores between college students that were identified with a disability (\( M = 14.03, SD = 1.88 \)) and college students who were not identified with a disability (\( M = 14.68, SD = 1.23 \)).

**Self-Realization**

An independent-samples t test was conducted to evaluate the hypothesis that no difference exists between the autonomy domain score for the identified group and the non-identified student group. Levene’s Test for the Equality of Variances was not significant indicating that the variance between the groups was statistically equal. The independent-samples t test was not significant \( t(67) = -1.10, p > .05 \). The result indicates that college students without an identified disability did not have significantly higher levels of self-realization (\( M = 12.05, SD = 1.89 \)) than college students who are identified with a disability (\( M = 11.53, SD = 2.08 \)).
**Total Self-Determination**

An independent-samples t test was conducted to evaluate the hypothesis that no difference exists between the total self-determination score for the identified group and the non-identified student group. Levene’s Test for the Equality of Variances was not significant indicating that the variance between the groups was statistically equal. The independent-samples t test was not significant $t(67) = -.235, p > .05$. The result indicates that there was not a statistically significant difference in total self-determination scores between college students that were identified with a disability ($M = 101.53, SD = 14.57$) and those who were not identified with a disability ($M = 102.35, SD = 14.30$).

**Transition Services**

An independent-samples t test was conducted to evaluate the hypothesis that no difference exists between the autonomy domain score for the identified group and the non-identified student group. Levene’s Test for the Equality of Variances was not significant indicating that the variance between the groups was statistically equal. The independent-samples t test was not significant $t(67) = -.264, p > .05$. Although, the result was not significant, college students without an identified disability rated the level of transition services they received when moving from high school to postsecondary education to be higher ($M = 3.51, SD = 1.19$) than the transition services that students with an identified disability indicated that they received during the same transition ($M = 3.44, SD = 1.19$).

**Open-ended Responses**

Several themes emerged from participant responses to the prompt “Looking back on your transition from high school to college, what services did you NOT receive that you would have wanted and/or needed?” Twenty-eight out of the 69 participants, approximately 40%, responded to this prompt. Of the 28 participants who responded to the prompt, 16 were students with a disability and 12 were students who belonged to the non-identified group (students without disabilities).

The first theme that arose was that of a general dissatisfaction with the services received during the high school to postsecondary transition. Three of the four participants who responded in this theme were members of the identified group, with only one participant being in the non-identified group. Dissatisfaction with high school
services among the identified participants, ranged from feeling unprepared for postsecondary education to not being allowed to take college prep classes or having high school teachers who did not share information about college. The non-identified respondent who reported being dissatisfied with high school transition services reported that information about ACT and SATs was not shared and thus made the transition very difficult. Although members from both groups reported dissatisfaction with the transition services they received in high school, those who were identified with a disability were the majority and had a wider range of complaints and transition issues.

Several participants responded with specific suggestions of services or supports that they did not receive but felt could have been beneficial. These suggestions included but are not limited to: 1) a personal tutor to help with questions and projects; 2) a written packet of information that would generally be covered at an on campus orientation; 3) a more practical way to deal with homesickness; 4) someone to talk to; 5) someone to take notes in class or to have notes provided before class. Participants from both the identified and non-identified groups contributed to the suggestions above. In contrast, only students from the identified group expressed unhappiness with the transition help or advising that they received at the postsecondary level when first entering the university. Two participants reported not knowing who their advisor was, while others reported not being given information specific to their major or not knowing about the disability service center. One participant suggested that it would be useful to give new students a flow chart that explains the courses needed for a particular major, suggestions on when to take required courses, and notes about prerequisites for required courses. While students from both the identified and non-identified groups did make suggestions about possible improvements to the transition process, only students from the identified group expressed dissatisfaction with the college transition services and the advising process.

In contrast to the first theme, the second theme revealed in participant responses was that of satisfaction with transition and support services received in college. Students from both the identified and non-identified groups were represented in this theme. One participant, from the non-identified group, reported having a wide variety of experiences, activities, and opportunities available in high school that helped in preparing for college (specific experiences, activities, and opportunities were not provided). Three other
participants responded by saying that there was nothing they could think of that they did not get during their transition that they believe could have been helpful, corresponding to the theme of satisfaction with the services received. Of these three responses, two came from participants in the non-identified group and one came from a member of the identified group. Overall, participants in the non-identified group reported more satisfaction with the transition services they received than participants in the identified group. All responses that included a statement about support services received at the postsecondary level were positive, regardless of participant group (identified or non-identified). This suggests that once students are at the postsecondary level the services they receive meet their needs.

The third theme that appeared among participant responses included thoughts on acceptance of one’s disability and self-advocacy. One participant wrote “I know that I need to begin to advocate more for myself and take advantage of the many opportunities that are offered for me here.” This response is consistent with research which has indicated that self-advocacy is an important part of postsecondary success (Getzel & Thoma, 2008; Hadley 2006). Similarly, self-awareness has been identified as an important characteristic for postsecondary success. Several participants wrote about the process of accepting their disability and then gaining success in school. One participant wrote “only after I accepted who I was and how I was, only then were things easier for me”. In all, four participant responses were included in this theme. Of these four, two were members of the identified group and two were members of the non-identified group, showing that gaining self-awareness and learning to self-advocate are pertinent to college students, regardless of whether or not they have an identified disability.

Discussion

Based on the results of the current study significant differences were not evidenced in level of total self-determination, including the autonomy, psychological empowerment, and self-realization domains, between college students with an identified disability when compared to college students without an identified disability. These results are inconsistent with prior research which found significant differences in levels of self-determination between adults with disabilities (Shogren et al., 2007; Wehmeyer & Palmer, 2003). Based on the findings of this study, college students with disabilities
evidenced comparable independence, self-realization, locus of control, and choice making skills as their peers without disabilities. This has not been documented in other studies with other disabled samples which found that adults with different levels of cognitive functioning had different levels of self-determination (Shogren et al., 2007; Wehmeyer & Garner, 2003). The results of the current study suggest that college students with disabilities have similar skills sets to their non-disabled peers and as such may also have the skills needed to be successful students at the postsecondary level, similar to their non-disabled peers.

The difference in findings of this study and previous research may be the result of three factors related to the sample that was represented in the present study. The first sample factor to consider is the overall population of students attending a Midwestern university. Students attending the Midwestern university where the current study took place typically come from middle to upper class families, graduate from high achieving high schools, and benefit from supportive families. It is possible that students at this university have higher levels of self-determination as a result of the environments in which they grew up. Shogren et al (2007) and Wehmeyer and Palmer (2003) found that environmental factors such as capacity and opportunity impact an individual’s level of self-determination. Since the college students that attend the Midwestern university where the present study was conducted are exposed to or experience positive environmental factors, it is possible that the findings are due to this fact.

The second factor to consider is the fact that all participants in the current study were enrolled in university classes at the time they participated in the study. This tells us that all participants were in good standing with the university and had not been suspended, indicating that they have been able to maintain a grade point average (GPA) that meets university requirements for continued enrollment. Although the GPAs of the students who participated in the current study were not known, research has documented the finding that students with high levels of self-determination have more motivation for academics and consequently higher academic achievement (Faye & Sharpe, 2006; Komarraju, Karau, & Schmeck, 2009). In order for a student to be successful at the university level they need to have a skill set that allows them to meet the daily demands of the university setting. Many of the skills needed to be successful at a postsecondary
institution are closely linked to components of self-determination; they include problem solving, time management, goal setting, and self management (Sarver & Shaw, 2003; Hall & Webster, 2008). Since all the students involved in the present study were currently enrolled at the university and had maintained commensurate levels of academic achievement, it is reasonable to conclude that all students, those with and without disabilities, may have similar levels of success skills and particularly self-determination.

The third factor to consider pertains only to those college students who participated who are identified with a disability. Since all identified students who participated in the current study were contacted by their disability service coordinator it is also known that all identified students who participated were getting services through their disability resource office. To get these services, the student had to be aware of their needs as an individual with a disability and seek out the services needed to make them successful. These two actions are closely related to two factors, self-awareness and self-advocacy, that have been linked to higher rates of success at the postsecondary level (Getzel & Thoma, 2008; Hadley, 2006). Students who disclose their disability and seek help are displaying skills related to self-determination. As a result, the sample of identified students who participated in the current study may be different, relative to their self-determination level and/or development, from those identified students who did not participate. Had some college students with disabilities, who were not registered with the disability service office, been included in the current study then the results may have been different, possibly showing a greater discrepancy between the identified and non-identified groups.

Additionally, the disability categories of participants who disclosed this information did not reflect great variability according to their disability classifications. Of the 10 participants who disclosed their disability classification 7 were identified with a Learning Disability, 1 with Autism, and 3 with an Orthopedic Impairment. Previous studies that compared self-determination often included individuals with more significant disabilities such as cognitive disabilities, whereas, the current study had no known participants with cognitive disabilities. Overall, the disability categories represented in the current study could be considered to be more “high functioning disabilities” than some disability classifications used in prior research.
Implications for practice

In regards to self-determination, this study differs from previous research in that it looked at a population of college students with fairly high functioning disability classifications and compared those students to other college students without an identified disability. Furthermore, these students were matched on several variables to gain as close of a comparison as possible. The findings from this limited sample indicate that students with disabilities, particularly those from high functioning disability classifications, may demonstrate self-determination levels and attitudes that are comparable to their non-disabled peers. This is very useful information for both high school and college disability service providers. These results suggest that some high school students, even those with disabilities, perceive themselves and their abilities, in certain areas just like their non-disabled peers. Similarly, from a college service provider viewpoint, once in college students with disabilities may be on a similar level to that of their peers and classmates.

In regards to transition services, present and prior research indicates that this experience may vary tremendously between individuals and especially those with disabilities. Based on the open-ended responses, this study suggests that in general college students from the non-identified group were more pleased with the transition services and supports they received than the students belonging to the identified group. However, there was also variability among the students in the identified group; three expressed negative views of their transition help, four wanted more college advising help, while only one said there was nothing that they could think of to change or add to the help that was provided. The difference among participant experiences highlights the need to focus on the individual student and the needs of that student. Current research has shown three factors to be important during the high school to postsecondary transition. They are: 1) developing a student’s academic and personal support abilities through direct instruction and other activities; 2) providing system supports that facilitate those abilities; 3) providing opportunities to apply those abilities (Kohler & Field, 2003). These three key factors, along with individual student needs should be the focus of well rounded transition preparation and services.
At the secondary level, all individuals who work with or support high school students as they transition to postsecondary education settings can play an important role in implementing the aforementioned factors. These individuals can include but are not limited to, teachers, intervention specialists, school counselors, parents, school psychologists, and the student themselves. Teachers and intervention specialists can present students with a wide variety of instructional materials that require students to use different learning techniques and study strategies to master the material. Additionally, teachers need to teach students how to become more independent learners by giving direct instruction on study skills, time management, and reading comprehension strategies. All school related personnel can model appropriate organization and self-help strategies for students with and without disabilities. School counselors and/or school psychologists could offer groups or meet individually with students as they approach their transition to postsecondary education to talk about potential challenges that might arise and role play strategies to overcome those challenges. School psychologists also play an important role as they reevaluate high school students on IEPs. At the time of a student’s reevaluation, if not previously done so, the school psychologist should make recommendations about preparing the student for potential postsecondary enrollment, such as those previously mentioned, thus ensuring that the student will have opportunities to build the skills necessary to be successful in a postsecondary setting. Parents also can provide support before and during this transition by encouraging their child to take more personal ownership of their learning and greater independence with school related activities. Lastly, the student themself needs to take advantage of the opportunities and experiences provided in high school where supports are given in order to learn the skills necessary to be successful in postsecondary settings.

Ideally students will be prepared and have the skills they need when they begin their postsecondary education; however this is not always the case. As a result college and university staff and professors also need to be prepared to help students as they begin their postsecondary education career. Specifically teachers and professors, especially those that work mostly with first year students, may need to incorporate teaching on study skills and ways to approach their class or the reading materials required for their class into the curriculum. The office of disability services also needs to play an important
role in continuing this transition by working one-on-one with students with disabilities as they move through their postsecondary education. Lastly, all individuals who work with students at this level should be aware of the potential stress and difficulty that students may be facing as they begin this new stage of their life and be prepared to offer ways to find the student emotional support in addition to academic.

Current practitioners at the high school and postsecondary level should consider individual student needs when planning the transition from high school to postsecondary education settings in order to focus on the skills that each student needs to develop or has already developed to make him/her as successful as possible. Additionally, current practitioners should look to those students who were satisfied with their transition services to see if their experience can be replicated for other students. Students in both the identified and non-identified groups expressed satisfaction with at least one aspect of their transition. A couple students in the non-identified group mentioned specific aspects of their transition that they felt were good; these included having supportive teachers, exposure to varied transition focused activities, opportunities, and experiences. Prior research has clearly demonstrated that a wide variety of experiences and opportunities is a key component to having a successful transition from high school to postsecondary education settings (Kohler & Field, 2003).

**Limitations**

First, although the disabilities reported in this study were more varied than those reported in previous research, not all survey respondents reported their disability category. Only 33% of participants in the identified group disclosed their disability classification. Without complete information on respondent disability category a true and accurate picture of the sample can not be attained. Another limitation to the current study is the sample size of 69. Additionally, not all participants completed the open ended response question which again gives an incomplete picture. A third limitation is not having a 100% matched comparison between the two groups. Although, all participants were matched on at least two of the four matching criteria, a complete match for all participants is important and certainly desirable. Another limitation is that participant grade point average was not asked in the survey and therefore was not known. If information on participant GPA had been collected it would have allowed the present
researchers to make an even better matched comparison and have more knowledge of student success or failure at the postsecondary level. Lastly, the setting where this study took place is a potential limitation. The Midwestern university where this study took place is a relatively high profile university that has high admissions standards and accepts strong academically prepared students. As a result, the sample of university students that was attained for the current study may not be representative of other college or university student samples where admission standards and student expectations may not be so rigorous.

Implications for future research

Due to the limitations of the current study and its importance to practice, future research in this area is needed. It would be beneficial to conduct a similar study looking at the self-determination of first year college students. Overall, first year college students had the lowest level of self-determination when compared to all other classes. Longitudinal benefits to look at students as they continue their college career. Studying this difference could shed light on how high school counselors and school psychologists could better meet the needs of those students, with and without disabilities, as they transition from high school to postsecondary education settings.

Future research is also needed with this population with a particular focus given to the disability category of the students. Information on levels of self-determination for a wide variety of more “high” functioning disability categories would add to current research and help secondary and postsecondary school personnel better meet the needs of their students with disabilities.
References


