# Career-Decision Self-Efficacy among College Students with Symptoms of Attention Deficit Disorder

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## Abstract

*Compared to the general college population, students with attention deficit disorder (ADD) are less academically prepared with the skills to maintain college course requirements. This inadequacy is due to the change in academic structure, time management, and the skills required for higher education. I measured career-decision self-efficacy to assess college students' abilities to accomplish tasks necessary to making career decisions, and a relationship emerged between students that self-reported increased symptoms of ADD and a decrease in career decision self-efficacy. Providing academic institutions with knowledge of how symptoms of ADD affects college students and their future career planning may assist advisors in providing students with services and treatment options to increase retention and career commitment.*

## Introduction

College is a time when students make crucial life and career decisions. For some students, this is the first time they are without parental guidance. An estimated 2% to 4% of young adults pursuing a post-secondary education struggle with symptoms of attention deficit disorder (ADD), a disorder which poses difficulties for these college students that encounter transitional challenges and have difficulty maintaining academic demands (Bolaski & Gobbo, 1999; Lee, Oakland, Jackson, & Glutting, 2008; Weyandt & DuPaul, 2006). College students diagnosed with ADD comprise a significant and growing population compared to their undiagnosed counterparts (Dipeolu, 2011, DuPaul et al., 2001; DuPaul et al., 2009). As the number of diagnosed college students continues to rise, the question of their abilities to make career decisions becomes more important (Dipeolu, 2011).

Studies of career decidedness, career maturity, and career exploration include career decision-making (Creed, Patton, & Prideaux, 2006; Dipeolu, 2011; Hackett & Betz, 1981; Luzzo, 1993; Luzzo, 1996; Luzzo et al., 1999; Taylor & Betz, 1983); however, there is limited research available on career decision and factors associated with persons with disabilities, specifically ADD (Luzzo et al., 1999). Hackett and Betz (1981) were the first to apply self-efficacy to career psychology and counseling. Shortly after, Taylor and Betz (1983) constructed the Career-Decision Self-Efficacy Scale to assess an individual's self-efficacy expectations and how those expectations apply to career decision tasks and behaviors (Luzzo, 1993). Career-decision self-efficacy is an individual's belief in their ability to make career decisions (Betz & Luzzo, 1996), which is in relation to Bandura's concept of self-efficacy, meaning that an individual's belief in one's capabilities to successfully perform influencing behavioral choices and performance (Betz, Klein, & Taylor, 1996). If Bandura's self-efficacy theory is applied to career decision-making, establishing low levels of career-decision self-efficacy may lead to inhibition of career decision, whereas high levels of career-decision self-efficacy will lead to increased involvement in career decision behaviors (Luzzo, 1996). College students with ADD may possess lower levels of confidence when compared to their non-diagnosed peers, thus leading to lower levels of career-decision self-efficacy (Luzzo et al., 1999; Shaw-Zirt, Popali-Lehane, Chaplin, & Bergman, 2005). Low levels of career-decision self-efficacy may identify the degree to which students with ADD have confidence in their ability to engage in educational planning and decision-making. According to previous researchers, the lack of career decision-making is positively correlated with problems in career exploration and career indecisiveness. In a study conducted by Creed et al. (2006), 50% of college freshmen experience career indecision and would like assistance in making career decisions. In addition, Betz and Klein (1996) suggested that career-decision self-efficacy is strongly related to both statements of and actual difficulties in making and implementing career decisions. Taylor and Betz (1983) found undergraduates that declared undecided in their major reported less confidence in their abilities to make career decisions. According to a 15-year longitudinal study of children with ADD, less than 5% completed college and more than 40% of their non-ADD peers completed college

(Turnock, Rosen, & Kaminski, 1998). Furthermore, an individual's career-decision self-efficacy should predict their implementation of career decision-making (Luzzo, 1993). As a result, college students' ability to thrive in post-secondary education influences their success and self-efficacy. Moreover, deficits in self-esteem associated with ADD can influence academic adjustment (Shaw-Zirt et al., 2005).

The adjustment that college students endure relates to their attachment to college, personal-emotional adjustment, and goal commitment. How college students meet the demands of adjustment is referred to as academic adjustment, which is the independent functioning in which an individual is prepared to accommodate academic demands (Feldt, Graham, & Dew, 2011). College provides an environment that is less structured than secondary education, which may increase potential for added distractions in college than students with ADD are adapted to (Norwalk, Norvilitis, & MacLean, 2008). Lack of structure in a college environment may influence individuals with ADD to struggle with developing an academic schedule, developing internal motivation, and psychological functioning (Feldt et al., 2011). A study conducted by Shaw-Zirt et al. (2005) that examined students adaptation to college found that college students with ADD scored significantly lower than non-ADD on the overall score of the student adaptation to college scale. According to Shaw-Zirt et al. (2005), college students with ADD are more likely to struggle with overall academic adjustment. In contrast, Rabiner et al. (2008) found college students with ADD are more likely to adjust and attain academic success than the general ADD population. The transition into a post-secondary education is critical for student academic success, especially students with ADD (Feldt et al., 2011). The decision to attend and remain at an academic institution also plays a role in student's adjustment to college. This decision may be affected by the student remaining aware of the importance of getting a degree and clearly defining academic goals. The overall academic goals of the student may be perceived as a poor fit with the institution, which may be due to the fact that student is unaware of institutional resources and utilizing the guidance from an academic advisor (Feldt et al., 2011). The percentage of students who utilize institutional resources remains unknown because students are not required to disclose their disabilities to the institution (Norvilitis, Sun, & Zhang, 2009). The institutional fit for the student plays a crucial role in how students adapt and may impact their career decision.

ADD is a common childhood developmental disorder characterized by impulsive behaviors, distractibility, and the inability to remain focused on tasks or activities (Booksh, Pella, Singh, & Gouvier, 2010; DuPaul, et al., 2009; Thackery & Harris, 2003; Weyandt, Linterman, & Rice, 1995). Symptoms include impulsivity that causes an individual to act on urges of environmental demands (Spinella & Miley, 2003) and inattention, which is characterized by limitations on high order cognitive functioning including organization, planning, memory, and self-monitoring (Conners et al., 1999). According to previous research, ADD symptoms affect approximately 3% to 7% of children (Knouse & Safren, 2010; Levine & Anshel, 2011; Ramsay & Rostain, 2007; Spencer et al., 1996). In addition, up to 70% of children diagnosed continue to display symptoms of ADD into adolescence and adulthood (Heiligenstein, Conyers, Berns, & Smith, 1998; Lee et al., 2008; Weyandt & DuPaul, 2006). ADD untreated in childhood leads to negative effects on a child's social and educational performance, which can seriously damage one's sense of self-esteem (Thackery & Harris, 2003).

ADD is the second most common learning disability subsequent to dyslexia, the most common learning disability affecting college students (Faigel, 1995). Some ADD symptoms such as hyperactivity decline in young adulthood, but impulsivity and inattention remain apparent in 50% of individuals with ADD through adulthood (Thackery & Harris, 2003). Heiligenstein et al. (1998) studied 1,080 college freshmen; 47 of the students were previously diagnosed with ADD, and the researchers reported that total symptom hyperactivity decreased with increasing age and there were no gender differences in inattention levels. Research regarding college students and ADD is limited in comparison to the availability of research among school age children and adults with ADD.

According to Weyandt and DuPaul (2006), approximately 2% to 4% of college students exhibit symptoms of ADD. A contributing factor identified in previous research is that school age children with ADD remain unidentified until they reach post-secondary education. Compared to the general college population, students with ADD are less academically prepared, and are therefore lacking the skills to maintain college course requirements, which places them at risk for school dropout, underachievement, and emotional impairment (Heiligenstein et al., 1998, Lee et al., 2008; Wolf, 2001). DuPaul et al. (2009) indicated this inadequacy is due to the change in academic structure, time management, and the skills required for a higher education, which highlight the symptoms of ADD that college students struggle to cope with. In addition, students with symptoms of ADD struggle to earn a post-secondary education. Students with ADD in comparison to their non-ADD counterparts are more likely to discontinue their post-secondary education earlier than those without ADD (Lee et al., 2008). According to Lee et al., (2008) approximately 5% of students with ADD graduate college, whereas 41% without ADD graduate from college (Barkley, Fischer, Edelbrock, & Smallish, 1990). With ADD continuing into young adulthood and remaining apparent in post-secondary education, research is clearly warranted in the examination of how symptoms of ADD affect college students' career decisions.

The goal of my study is to expand on previous research regarding college students with ADD and to assess how the symptoms of ADD affect college students' future plans for careers. I hypothesize that (1) college students with increased inattention problems and impulsivity problems will have decreased career-decision self-efficacy; (2) college students with increased inattention problems will have decreased academic adjustment; (3) college students with increased impulsivity problems will have decreased academic adjustment; and (4) college students with symptoms of ADD will have decreased academic adjustment, therefore decreasing their career-decision self-efficacy.

## Method

### Participants

Participants were undergraduate students enrolled in a general psychology course at a western university. Participants volunteered and self-selected into the study through web-based Experimetrix software for course credit. There were 257 participants: 131 males and 126 females. The students ranged in age from 18 to 88 years old ($M$ = 20.93, $SD$ = 6.36). I received approval from university's Institutional Review Board; all participants provided informed consent.

### Materials

*Career-decision self-efficacy.* Participants were assessed using the career-decision self-efficacy scale (Betz & Luzzo,1996). The career-decision self-efficacy measures an individual's beliefs and attitudes that he or she can complete necessary tasks to making career decisions (Betz & Luzzo 1996). The career-decision self-efficacy is a significant predictor of persistence in college when matched with student's needs, preferences, and interests with the university they were attending (Norwalk et al., 2009). Example items include "Plan course work outside of your major that will help you in your future career." Participants rated items on a 5-point Likert-type scale ranging from 1 = *no confidence at all* to 5 = *complete confidence*. Validity tests conducted by Luzzo (1996) revealed a significant positive relationship between career decision-making attitudes and career-decision self-efficacy scores ($r$ = .41). Students who retain mature attitudes toward the career decision process will have higher scores on the career-decision self-efficacy. The reliability coefficient of the career-decision self-efficacy scale ranges from .83 to .97 (Betz et al., 1996; Luzzo, 1996; Nilsson, Schmidt, & Meek, 2002). Luzzo (1996) investigated the career-decision self-efficacy in a six-week test-retest of the career-decision self-efficacy total score and revealed a coefficient of .83.

*Academic Adjustment.* The Student Adaptation to College Questionnaire (SACQ) is a 67-item questionnaire that measures four components of college adjustment: academic, social, personal-emotional, and institutional attachment (Feldt et al., 2011). Participants are assessed on a 9-point scale ranging from 1= *applies very closely to me* to 9 = *does not apply to me at all*. Example items include "Is definite about reasons for being in college." Dahmus (1992) and Feldt et al., (2011) have reported a strong reliability of the subscale academic adjustment with a coefficient range .85 to .91. According to Dahmus (1992), a significant positive correlation exists between academic adjustment and GPA (.17 to .53. $p < .01$), indicating that the SACQ has predictive validity between relationships of SACQ scales and independent real-life behaviors and outcomes.

*Attention Deficit Disorder.* Participants were assessed using 66-item Conners' Adult ADHD Rating Scale (CAARS) that measures four facets, including: 1) Inattention/Executive Functioning—self-regulation, organization, prioritization, time-awareness, and planning; 2) Hyperactivity/Restlessness; 3) Impulsivity/Emotional Lability; and 4) Problems with Self-Concept (Conners, 1997; Conners et. al, 1999). Example items include "I'm always moving even when I should be still." Participants rated items ranging from 1 = *not at all, never* to 3 = *very much, very frequently*. High scores within this scale indicate the individual has difficulties that may include poor social relationships, low self-esteem, and self-confidence. Conners et al. (1999) examined validity criterion using a sample of adults with ADHD matched with normal control participants results in preliminary data demonstrating 87% overall correct classification rate. In addition, examining relationships between childhood and current symptoms the four scales of the CAARS has significant test-retest reliability and construct validity that ranges from .37 to .67 (Conners et al., 1999). A study conducted by Conners et al. (1999) consisted of 799 adults ages ranging from 18 to

81 ($M$ = 39.18, $SD$ = 6.36) and resulted in a strong test-retest reliability for the subscales Inattention Problems, .90 ($p < .05$) and Impulsivity/Emotional Lability, .91 ($p < .05$).

## Procedure

Participants electronically agreed to provide informed consent by checking a designated box provided. The participants participated in an online survey through Experimetrix. Participants answered a 206-item survey that took participants approximately one hour to complete. Upon completion, participants were debriefed and thanked for their participation.

# Results

A significant negative relationship was found between inattention and career-decision self-efficacy measures, $r(234) = -.35$, $p < .001$, indicating that the more inattention reported, the less career-decision self-efficacy reported, or vice versa. Also, a significant negative relationship emerged between impulsivity and career decision, $r(236) = -.20$, $p = .002$, signifying an increase in impulsivity is associated with decreased career-decision self-efficacy, or vice versa.

A statistically significant relationship did not emerge between academic adjustment and inattention, $r(252) = .08$, $p = .193$, therefore suggesting college students with inattention problems will not have difficulty with academic adjustment. In addition, no significant relationship emerged between impulsivity and academic adjustment, $r(254) = .07$, $p = .264$. No significant relationship was found between academic adjustment and career-decision self-efficacy, $r(236) = .08$, $p = .176$.

# Discussion

College students' ability to thrive in post-secondary education influences their success and self-efficacy. My goal was to examine previous research and to assess self-reported inattention and impulsivity and how the symptoms of ADD affect college students' plans for future careers. In this study a relationship emerged between students that self-reported increase symptoms of ADD and a decrease in career-decision self-efficacy, which signifies that an individual's career-decision self-efficacy should predict their implementation of career decision-making (Luzzo, 1993), thus identifying the degree to which students with ADD have confidence in their ability to engage in educational planning and decision-making.

Students that self-reported increase symptoms of ADD had decreased career-decision self-efficacy. The results of the current study also emphasize the results found by Norwalk et al. (2008) that the relationship between college students' self-reported inattention and impulsivity and career-decision self-efficacy signify that with increased symptoms of ADD, college students' career-decision self-efficacy decreased. This means students with ADD report lower levels of confidence, therefore decreasing their career-decision self-efficacy inhibiting their ability to make career decisions. Moreover, students with ADD appear to struggle with planning for their future.

According to the current study outcomes, I suggest that students with symptoms of ADD do not struggle as much with academic adjustment. These findings are in contrast to a study conducted by Shaw-Zirt et al. (2005) which examined student's adaptation to college suggesting that students with ADD struggle with overall academic adjustment. The institutional fit for the student plays a crucial role in how students adapt and may have an impact on their career decision. In addition, the college environment contains a much less structured learning environment with added distractions that some students with ADD are not accustomed to (Norwalk et al., 2008). In contrast to previous findings, students with ADD do not have difficulty adapting to the college environment. Therefore, students with ADD are able to adapt to the environment. In addition, the result that academic adjustment did not have a relationship with career-decision self-efficacy affirms that students with ADD have the ability to adapt to their environment, thus increasing their ability to make career decisions. Based on the findings in the current study I suggest it is not the institution that hinders the student, but their increased symptoms of ADD.

College students that struggle with ADD may have difficulty making career decisions and planning for their future. On the contrary, students' academic adjustment does not negatively impact their career decision making. I speculate that the academic environment does not hinder students with ADD in making career decisions, however the increase in symptoms of ADD hinder students' abilities to make career decisions. One limitation in this study was the lack of ethnic diversity to differentiate how symptoms of ADD effect general college populations. Future research may want to conduct data collection where a more diverse subject pool can be obtained. I obtained

self-reported symptoms of ADD, therefore, without an informant report from a close relative or guardian to complement the data collected there is a possibility of response error and a decrease in accurate information.

Apart from the limitations of this study, it is one of the few studies that examines career decision-making and symptoms of ADD. Based on the results of this study, students with ADD do not struggle with academic adjustment, but struggle with making and implementing career decisions. Future research should examine the facets of academic adjustment, which include attachment to college, personal-emotional adjustment, and goal commitment. This will supply researchers with additional knowledge to the contrasted findings within this study in relation to previous research. My results may have implications for academic institutions that aim to improve retention. It may provide some incentive for institutions to assist students with ADD to improve poor academic skills and low career-decision self-efficacy, which could decrease college dropout rates (Norvilitis et al., 2010). Providing academic institutions with the knowledge of how symptoms of ADD affect college students and their future career planning will in turn assist academic institutions in providing students with services and treatment options to increase retention and career commitment. A longitudinal study would provide academic institutions further direction on this issue.

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