Self-Reported Understanding of ADHD among Undergraduate Students at a Midwestern University

Meghan McClellan, Bachelor of Science in Community Health Education

Robert Jecklin, Health Education and Health Promotion; Sherwin Toribio, Mathematics

ABSTRACT

Researchers explored how college students experienced difficulties with paying attention, how they responded with self-care, how they responded with healthcare, and what they knew and believed about Attention Deficit-Hyperactivity Disorder (ADHD). During the spring of 2012, 1,264 undergraduates from the University of Wisconsin-La Crosse completed an 80-item-online survey. Researchers found that 31.8% of the respondents reported a frequency and variety of difficulties that would cause a clinician to evaluate the student for ADHD and that 7.6% of the respondents reported a medical diagnosis with ADHD at some time since there first year of formal education. Researchers also found variability in the reported use and helpfulness of approaches to self-care and medical-care to improve paying attention, and the respondent's knowledge and beliefs about ADHD. Researchers concluded that it remains important to continue asking students about ADHD, approaches to treating ADHD, and their more general efforts and concerns about paying attention.

Keywords: Attention Deficit-Hyperactivity Disorder (ADHD), College Students, Paying Attention

INTRODUCTION

The American Psychiatric Association (2000) used the Diagnostic and Statistical Manual of Mental Disorders (DSM-TR-IV) to define Attention Deficit-Hyperactivity Disorder (ADHD) as a behavioral disorder using three categories of symptoms: lack of attention, hyperactivity, and impulsivity. Clinicians used this definition to diagnose and establish the phenomenon of ADHD in children and adolescents. In the United States, parents increasingly reported ADHD diagnoses among their children aged 4-17 years; their reports rose from 7.8% in 2003 to 9.5% in 2007 (Center for Disease Control and Prevention, 2011). Prevalence rates for ADHD in adults have not been as well determined, but fall in the 4% to 5% range (WebMD, 2013). David and others (2012) concluded that over a 14-year-time-frame, the rate of diagnosis of ADHD increased among adults in the United States; the rate of office based visits documenting a diagnosis of ADHD increased from 3.1 per 1000 persons aged $\geq$ 20 years in 1996 to 14.5 in 2007, a 4.7-fold increase. However, experts debated the applicability of the DSM criteria for diagnosing ADHD in adults (Barkley, Murphy, and Fischer, 2008).

College students offered an interesting perspective on ADHD in part because researchers assumed paying attention was important to academic success. In 2012, college students around age 20 represented the early generations of young adults who either personally experienced ADHD or who experienced ADHD vicariously through the experience of their peers. They were using their childhood experience and the demands of college to construct how they would recognize, understand, and respond to ADHD. According to a review of the available literature regarding the functioning, assessment, and treatment of college students with ADHD, approximately 2 to 8% of the college population reports clinically significant levels of ADHD symptoms (DuPaul, Weyandt, O'Dell, and Varejao, 2009). The reviewers also commented that studies were limited in number and quality.

College students with ADHD are at risk for poor academic achievement and are less likely to complete a college education (DuPaul et al., 2009). More recently, other researchers found that students who reported significant symptoms of ADHD had more difficulty identifying and fixing errors in their work, and reported greater difficulties while studying and taking tests (Garnier-Dykstra, Pinchevsky, Caldeira, Vincent, & Arria, 2010). Lewandowski and others (2008) concluded that students with significant ADHD symptoms had greater academic concerns. In other research, college students with ADHD also reported lower grade point averages, lower scores in time management, concentration, and motivation, and higher scores in anxiety (Schwanz, Palm, & Brallier, 2007; Johnson, 2011).

Researchers also reported that college students with ADHD symptoms were less likely to practice positive self-care and preventative health care. Canu (2007) found that college students with ADHD criteria reported less emphasis on work safety. Glass and Flory (2012) concluded that inattention symptoms of ADHD positively correlated with cigarette smoking and the problems associated with alcohol and illicit drug use. Furthermore, college students diagnosed with ADHD who chose to misuse their prescribed medications were significantly more likely to report using a greater number of illicit substances, including marijuana, cocaine, hallucinogens, and opiates than students without an ADHD diagnosis (Jardin, Looby, & Earleywine, 2011; Advokat, Guidry, & Martino, 2008).

Abuse of stimulant medications on college campuses increased in recent years. Rabiner and others (2009) found that 31% of college students in the U.S. have taken another person's ADHD drugs at some point during their years in college. Rabiner (2009) also found that the primary motive for misusing another student's prescription medication is to enhance academic performance. Aikins (2011) found that abuse and misuse of ADHD medications was linked to adverse health effects including chemical dependency and withdrawal symptoms. Desantis and Hane (2008) found that college students viewed the use of stimulant medication to improve academic performance without an ADHD diagnosis as both physically harmless and morally acceptable. Fisher and Watkins (2008) found that 77-93% of college student participants were successful at faking the diagnostic criteria on multiple ADHD rating scales.

Researchers have found that many college students report inadequate disability services offered through their universities. Hindes and Mather (2007) found that only half of the college students diagnosed with ADHD reported receiving adequate accommodations, and only half of those students reported actually using the accommodations. Chew and others (2009) found that more frequent contact with diagnosed individuals and their personal experiences with ADHD symptoms were associated with more positive attitudes towards the validity of disorder on campus.

This research is organized around how college students experience difficulties paying attention, what they know and believe about ADHD, their use of self-care and healthcare to help with attention, and their demographic characteristics. The results of this research are about how college students understand ADHD and more generally what college students do to improve their attentiveness.

METHOD

Researchers chose to survey undergraduate students at the University of Wisconsin-La Crosse (UWL). They sent an 80-item online survey (using Qualtrics) to all 8,554 undergraduate students with an UWL email account on April 22, 2012. Researchers organized the survey instrument around six areas: self-reported symptoms of ADHD, self-care used to improve paying attention, healthcare used to improve paying attention, sources of knowledge about ADHD, beliefs and attitudes towards college students with ADHD, and demographic characteristics.

In the first section of the survey (items 1-18), participants answered questions about their experiences with difficulty paying attention. Kessler and others (2005) established the validity of these 18 items as the Adult ADHD Self-Report Scale (ASRS-v 1.1); answers to the first 6 questions are the most predictive of ADHD and answers to the remaining 12 items help clinicians identify the role of hyperactivity in the respondents experience. For each item, respondents chose *never, rarely, sometimes, often,* or *very often* to indicate their experience with a symptom. Researchers used answers on items 1-6 to screen for the likelihood of ADHD; positive screens indicate a greater potential for an ADHD diagnosis by a clinician. Adler and others (2006) also found that the ASRS-v 1.1 was a reliable and valid instrument.

In the second section of the survey (items 19-39), participants answered questions about their use of self-care to improve their attention. Researches asked participants about their use of diet, exercise, sleeping habits, and their drug and alcohol consumption to improve attention. Researchers also asked about their involvement on campus and their approach to academics. Researchers asked each participant about each self-care practice to determine frequency-of-use and perceived efficacy. Researchers consulted experts to establish the validity of the self-care items and then piloted the instrument with university students to assess reliability.

In the third section of the survey (items 40-47), participants answered questions about their use of healthcare to improve their attention. Researchers asked participants about their use of counseling services, medical clinicians, and prescribed medications to improve their attention. Researchers asked each participant about each healthcare practice to determine frequency-of-use and perceived efficacy. Researchers consulted experts to establish the validity of the healthcare items and then piloted the instrument with university students to assess reliability.

In the fourth section of the survey (items 48-57), researchers asked participants to identify what the acronym ADHD stood for and to correctly choose the ADHD definition consistent with the DSM-TR-IV manual. Participants identified all of the places or situations in which they had learned about ADHD. In addition, participants identified whether or not they had friends or family members diagnosed with ADHD. Also, researchers asked participants if

they themselves had ever been diagnosed with ADHD and if so during what level of education (elementary school, middle school, high school, or college). Researchers consulted experts to establish the validity of these items and then piloted the instrument with university students to assess reliability.

In the fifth section of the survey (items 58-71), participants answered questions about their beliefs about ADHD. Researchers asked participants to indicate how strongly they agreed or disagreed with 14 different belief statements about the meaning of an ADHD diagnosis, beneficial and fair treatment of ADHD, and support-and-accommodation for students with ADHD. Researchers consulted experts to establish the validity of these items and then piloted the instrument with university students to assess reliability.

In the last section of the survey (items 72-80), participants answered questions about their demographics. Researchers piloted the survey with students enrolled in a course on *Theories of Health Behavior* during the fall semester of 2012. A clinical social worker, a practicing psychiatrist, and two psychology professors reviewed items for validity. Researchers revised the items accordingly. The study was approved by the institutional review board and informed consent was obtained from all participants.

RESULTS

The researchers sent questionnaires to 8,554 undergraduate college students and 1,264 respondents completed the questionnaire. Respondents reported demographic characteristics which are summarized in Table 1.

Table 1. Respondent demographics (%)

Gender	
Male	27.3
Female	72.7
Class Standing	
Freshman	22.9
Sophomore	21.8
Junior	25.6
Senior	21.8
Senior +	7.9
Grade Point Average (GPA)	
A (4.00)	41.3
AB (3.50)	36.4
B (3.00)	18.9
BC (2.50)	2.7
C (2.00)	0.6
D (1.00)	0.1
Health Insurance Coverage	
Private	71.0
Other	65.0
None	6.0
Student Financing of College Education	
Family paid full	21.9
Family paid partial	38.1
Aid that will be repaid	60.8
Aid that will not be repaid	57.9

Regarding general knowledge about ADHD, 98.6% of respondents correctly identified the meaning of the acronym ADHD and 80.4% of the respondents correctly identified the ADHD definition found in the DSM-TR-IV manual. Respondents reported many sources of education about ADHD, found in Table 2. Over half of the respondents understood ADHD from their friends, high school, family members, T.V. or other media sources. Respondents seldom reported using physicians and professors to understand ADHD.

Table 2. Reported sources of education about ADHD (%)

In conversation with a friend.	69.8
During a high school course.	63.9
In conversation with a family member.	58.1
During a T.V. show.	57.9
In print/electronic media.	52.4
During a college course.	49.8
During a commercial/advertisement.	40.4
In a news broadcast.	40.0
Through personal research.	27.5
In conversation with a physician.	17.2
In conversation with a professor.	8.4
Other.	6.9

Respondents agreed with a variety of belief statements which are summarized in Table 3. Respondents empathized with those diagnosed with ADHD and those who experienced more general difficulties paying attention. Respondents agreed with the use of counseling for all students but reserved the use of prescription medications for those with an ADHD diagnosis. Respondents also agreed that stimulant medications are over-prescribed among college students.

Table 3. Belief statements supported by respondents (%)

It is fair for students who are diagnosed with ADHD to receive counseling to improve their academic performance.	92.7
It is fair for students who are not diagnosed with ADHD to receive counseling to improve their academic performance.	92.4
Students diagnosed with ADHD have more difficulty with paying attention than students who are not diagnosed with ADHD.	89.0
Counseling services help students with ADHD pay attention.	88.0
Adderall, Ritalin, and similar drugs help students with ADHD pay attention.	87.9
It is fair for students diagnosed with ADHD to take Ritalin, Adderall, or other prescriptions to improve their academic performance.	82.3
Counseling services help students without ADHD pay attention.	81.0
Adderall, Ritalin, and similar drugs are over-prescribed for college students.	75.3
Students diagnosed with ADHD should be allowed to take examinations in separate rooms.	72.5
Students diagnosed with ADHD should be allowed to have more time on examinations.	56.8
Adderall, Ritalin, and similar drugs help students without ADHD pay attention.	53.9
It is fair for students who are not diagnosed with ADHD to take Ritalin, Adderall, or other drugs to improve their academic performance.	23.9

Many respondents reported interacting with people diagnosed with ADHD; 65.4% of the respondents reported having one or more friends with ADHD and 23.6% of respondents reported having one or more family members with ADHD. Respondents answered questions about their difficulties with paying attention and their medical history related to ADHD. Regarding medically diagnosed ADHD, 7.6% of respondents reported being diagnosed by a medical provider at least once. Researchers included the Adult ADHD Self-Report Scale (ASRS-v 1.1) in the first 18 questions to determine how frequently college students experienced difficulties with paying attention. Nearly a third of all respondents (31.8%) reported a pattern of difficulties equal to a positive screen; clinicians use a positive screen to initiate further evaluation for ADHD.

Researchers asked respondents to identify their use of self-care and healthcare to improve their attention, and to describe their beliefs about the efficacy of each approach (see Table 4).

Table 4. Reported practices to increase paying attention (% of respondents)

Self-Care Practices	Reported Use
I chose what and/or when to eat.	79.7
I carefully chose housing and /or roommates.	59.2
I carefully scheduled my classes.	57.0
I carried water.	56.8
I engaged with classmates.	47.5
Health-Care Practice	**Reported Use**
I was medically evaluated.	11.5
I was prescribed a medication.	9.9
I sought advice from the counseling services on campus.	4.2
I sought medical care in my hometown.	2.8
I sought advice from the student health service on campus.	2.0

Researchers found that a medical diagnosis for ADHD was not always associated with resolution of attention difficulties. Two thirds of the respondents reporting a medical diagnosis of ADHD also screened positive for significant symptoms of ADHD. Researchers analyzed the respondent data to determine what self-care and healthcare practices were associated with positive or negative screens for ADHD.

Researchers found that self-care choices around eating, adequate sleep at night, and the right housing were associated with a negative screen for ADHD. Researchers found that only using the student health service was associated with a negative screen. Researchers summarized this analysis in Table 5.

Researchers also recognized that when respondents reported more problems paying attention that they would have a positive screen for ADHD, and they analyzed the reported self-care and healthcare practices to determine what factors were most associated with a positive screen. Researchers found that consuming caffeinated beverages, smoking marijuana, seeking help from the disability resource center, engaging in vigorous physical activity, and using another student's prescription drug, were associated with a positive screen for ADHD. Researchers found that using the counseling and testing center, and a receiving a prescription were associated with a positive screen. Researchers summarized this analysis in Table 6.

Table 5. Reported practices significantly associated with a negative screen for ADHD[a]

Self-Care Practices	Exp (B)	Sig. (P) Value*
I chose what and/or when to eat.[b]	1.33*	0.000
I slept at least 8 hours at night.	1.27	0.000
I carefully chose housing and /or roommates.	1.16	0.009
Health-Care Practice	**Exp (B)**	**Sig. (P) Value**
I sought advice from the student health service on campus.	1.32	0.007

[a] This is the result of a logistic regression used to predict negative screens for ADHD
[b] The higher the number the greater odds for a negative screen (e.g. the odds of a negative screen increases by 33%).
* $p < 0.05$

Table 6. Reported practices significantly associated with a positive screen for ADHD[a]

Self-Care Practices	Exp (B)	Sig. (P) Value
I drank coffee, tea or other caffeinated drinks. [b]	0.85*	0.001
I smoked marijuana.	0.76	0.001
I sought help from the disability resource center on campus.	0.72	0.004
I did vigorous physical activity.	0.88	0.030
I used another student's Adderall or a similar prescription drug.	0.77	0.042
Health-Care Practices	**Exp (B)**	**Sig. (P) Value**
I sought advice from the counseling and testing center on campus.	0.71	0.000
I was prescribed medication within the last 6 months.	0.87	0.013

[a] This is the result of a logistic regression used to predict negative screens.
[b] The higher the number the lower the odds for a negative screen (e.g. the odds of a negative screen decreases by 15%).
* $p < 0.05$

DISCUSSION

How did college students at a Midwestern university understand paying attention and Attention Deficit Hyperactivity Disorder? During the closing and often busiest weeks of a spring semester, almost 20% of the 8,554 undergraduates found this topic to be interesting or important enough to attempt completing an 80-itme online survey, and about 75% of those students attempting actually completed the survey. Aside from their interest in this topic, the group of respondents appeared to be demographically similar to the campus and the campus was more or less like other campuses in the United States.

A strong majority of the respondents accurately identified ADHD by name and by definition. Over half of the respondents learned about ADHD in either a high school or college course, but very few reported engaging in personal research (27%) and even fewer learned directly from a physician (17.2%) or a professor (8.4%). Respondents were much more likely to learn about ADHD from social sources like a friend (69.8%), family member (58.1%), television (57.9%), or print/electronic media (52.4%). Respondents were learning about ADHD more frequently from evolving cultural influences than from established academic or professional sources.

The college students who participated in this research believed that paying attention was important, and that persons who have more difficulties paying attention should receive extra support. Respondents agreed (92%) that all students should receive counseling to improve academic performance. Despite using cultural sources for information about ADHD, respondents relied on a professional diagnosis when determining what was right about societal responses to ADHD. Respondents agreed (89%) that ADHD caused more difficulties for students and that a diagnosis justified the provision of counseling (92%) and the prescription of medications (82.3%) for college students with ADHD. Respondents agreed that a diagnosis also justified accommodations including taking exams in separate rooms (72.5%) and having additional time to complete exams (56.8%). Respondents reported an overwhelming amount of support for the validity of the disorder and supported counseling and medication services in the treatment of ADHD and the use of accommodations for college students diagnosed with ADHD. Respondents agreed (53.9%) that students without a diagnosis or a prescription would benefit from using ADHD medications, but only 23.9% believed that this was fair. Respondents did not support the use of stimulant medication without a prescription or a diagnosis and they agreed with the generalization that ADHD medications were over-prescribed.

Respondents reported personal knowledge about difficulties paying attention which included having friends with ADHD (65.4%), family members with ADHD (23.6%), and a personal diagnosis with ADHD (7.6%). All respondents reported at least some difficulties with paying attention. In fact, 31.8% or 402 of the respondents reported enough problems to be considered a positive screen for ADHD. When respondents shared their personal knowledge of this topic, they created a picture of unmet needs where some persons may need initial diagnosis and treatment for ADHD, and other persons who need follow-up care because even though they were diagnosed earlier they did not report effective resolution of their difficulties or symptoms.

Respondents also created a picture of student efforts to overcome difficulties paying attention. To understand what might be working, researchers analyzed self-care and healthcare practices as correlates of functional attentiveness (a negative screen for ADHD) or dysfunctional attentiveness (a positive screen for ADHD). Researchers concluded that sage guidance about eating right, getting rest, and choosing roommates continued to be good advice; respondents who reported using any of these three practices were more likely to have functional attentiveness. ADHD was defined as a medical diagnosis and it was not surprising that use of the student health service was also associated with functional attentiveness.

Were any self-care or healthcare practices associated with dysfunctional attentiveness? Researchers were not surprised to find that respondents who reported drinking caffeinated beverages, smoking marijuana, and using another student's stimulant medication were more likely to experience dysfunctional attentiveness (a positive screen for ADHD). Researchers found it interesting that engaging in physical activity was also associated with greater symptoms of ADHD, and concluded that students experiencing greater difficulties used exercise as an outlet or escape rather than a way to improve attention. Researchers wanted to know why seeking help from the campus counseling, disability services, and recently prescribed medication were associated with dysfunctional attentiveness. They surmised that persons seeking help were not yet benefitting from effective treatment, especially those with new prescriptions. Persons with effective treatment or self-care were less likely to seek help. Counseling and disability resources were important choices for many students.

LIMITATIONS AND FUTURE RESEARCH

The respondents in this survey did not answer research questions about differences attributable to the culture of an individual campus, regional differences, or ethnic and racial differences in more diverse populations. Demographic characteristics may lead to differences in beliefs, access to clinical diagnosis and support, and experience with difficulties including ADHD. Research is needed to explore these differences.

The researchers acknowledge the limits of self-reported information from respondents and would encourage more research integrating clinical assessments and observations of behavior by others.

This research is not about further defining ADHD in adults, and that research is needed. Similarly, this research is not about defining effective clinical treatment, which is also needed.

Researchers must continue efforts to better understand difficulties with paying attention in college and how students understand ADHD. When leaders created the disability and special education laws, such as the Americans with Disabilities Act, the Individuals with Disabilities Act, and Section 504 of the Rehabilitation Act, they increased the number of students with disabilities who would successfully complete high school and attend college (Wolf, 2001). Wolf reported that the greatest increase in disabilities on college campuses was in students with "hidden disabilities," such as ADHD, and those students were not required to report to disability support services.

Researchers must work to accurately identify the prevalence of ADHD among college students, and to find what combination of self care and supportive services will promote success in college and adult life.

ACKNOWLEDGEMENTS

I would like to give a special thanks to Dr. Jecklin for serving as my faculty advisor and for all of his help and wisdom throughout this project. Many thanks are also extended to Dr. Toribio for providing his expertise and guidance during the statistical analysis of the data. I would also like to acknowledge the UW-L Undergraduate Research Grants Program for providing the necessary funds to make this project possible.

REFERENCES

Adler, LA., Spencer, T., Faraone, SV., Kessler, RC., Howes, MJ., Biederman, J., Secnik, K. (2006). Validity of pilot Adult ADHD Self-Report Scale (ASRS): to rate adult ADHD symptoms. *Annual Clinical Psychiatry, 18,* 145-148.

Aikins, R. (2011). Academic Performance Enhancement: A Qualitative Study of the Perceptions and Habits of Prescription Stimulant-Using College Students. *Journal of College Student Development, 52 (5),* 17.

American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision. Washington, DC, American Psychiatric Association, 2000.

Attention Deficit Hyperactivity Disorder: ADHD in Adults. (2013). WebMD.

Canu, W. (2007). Vocational Safety Preference of College Men with and without Attention-Deficit/Hyperactivity Disorder: An Exploratory Study. *Journal of College Counseling, 10 (1),* 54.

Cassoff, J., Wiebe, S. T., & Gruber, R. (2012). Sleep patterns and the risk for ADHD: a review. Nature, 4, 73-80.

Chew, B., Jensen, S., Rosen, L. (2009). College Students' Attitudes toward Their ADHD Peers. *Journal of Attention Disorders, 13 (3),* 6.

D. A., Robison, L. M., Castillo, L. V., Bowen, K. A., Schmidt, J. M., & Oganov, A. M. (2012). Attention Deficit Hyperactivity Disorder among Adults in the United States: Trend in Diagnosis and Use of Pharmacotherapy. *Pharmaceutical Medicine, 26(2),* 97-101.

Desantis, A., Hane, A. (2008). "Adderall is Definitely Not a Drug": Justifications for the Illegal Use of ADHD Stimulants. *Substance Use & Misuse, 45 (1/2),* 31-46.

Dupaul, G., Weyandt, L., O'Dell, S., Varejao, M. (2009). College Students with ADHD Current Status and Future Directions. *Journal of Attention Disorders, 13 (3),* 234-250.

Fisher, A., Watkins, M. (2008). ADHD Rating Scales' Susceptibility to Faking in a College Student Sample. *Journal of Postsecondary Education and Disability, 20 (2),* 81-92.

Garnier-Dykstra, L., Pinchevsky, G., Caldeira, K., Vincent, K., Arria, A. (2010). Self-reported Adult Attention-Deficit/Hyperactivity Disorder Symptoms among College Students. *Journal of American College Health, 59 (2),* 133-136.

Glass, K., Flory, K. (2012). Are symptoms of ADHD related to substance use among college students? *Psychology of Addictive Behaviors, 26,* 124-132.

Hindes, Y., Mather, J. (2007). Inclusive Education at the Post-Secondary Level: Attitudes of Students and Professors. *Exceptionality Education Canada, 17 (1),* 107-128.

Jardin, B., Looby, A., Earleywine, M. (2011). Characteristics of College Students with Attention-Deficit Hyperactivity Disorder Symptoms Who Misuse Their Medications. *Journal of American College Health, 59 (5),* 373-377.

Kessler, RC., Adler, L., Spencer, T. (2005). The World Health Organization Adult ADHD Self-Report Scale (ASRS): a short screening scale for use in the general population. *Psychology Medicine, 35,* 245-256.

Lewandowski, L., Lovett, B., Codding, R., Gordon, M. (2008). Symptoms of ADHD and Academic Concerns in College Students with and without ADHD Diagnoses. *Journal of Attention Disorders, 12 (2),* 156-161.

Lombardi, A., Gerdes, H., Murray, C. (2011). Validating an Assessment of Individual Actions, Postsecondary Supports, and Social Supports of College Students with Disabilities. *Journal of Student Affairs Research and Practice, 48 (1),* 107-126.

Millichap, G., Michelle, Y. (2012). The Diet Factor in Attention-Deficit/Hyperactivity Disorder. *Pediatrics 129 (2),* 330-337.

Parker, H., Ellison, A., Sherman, G., Frisch, M., Kay, C., Burton, B., Cerenzia, W. (2012). Improving the Diagnosis, Treatment, and Follow-up of Adult Attention Deficit/Hyperactivity Disorder (ADHD) Patients in Primary Care Utilizing a Performance Improvemetn Continuing Medical Education (PI CME) Activity. *The Journal of Outcomes Measurement in Continuing Healthcare Education, 6 (1).*

Rabiner, D., Anastopoulos, A., Costello, J., Hoyle, R., McCabe, E., Swartzwelder, S. (2009). Misuse and Diversion of Prescribed ADHD Medications by College Students. *Journal of Attention Disorders, 13 (2),* 144-153.

Schwanz, K., Palm, L., Brallier, S. (2007). Attention Problems and Hyperactivity as Predictors of College Grade Point Average. *Journal of Attention Disorders, 11 (3),* 368-373.

Weyandt, L., Dupaul, G. (2006). ADHD in College Students. *Journal of Attention Disorders, 11 (1),* 9-19.

Wolf, L. (2001). College students with ADHD and other hidden dis- abilities. Outcomes and interventions. *Annals of the New York Academy of Sciences, 931,* 385-395.