



Unique considerations in the assessment of ADHD in college students

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ABSTRACT

Evidence-based practice in psychology (EBPP) has long focused on treatment, but evidence-based psychological assessment (EBPA) is also crucial given the important role of accurate and reliable diagnostic practices in treatment planning. In terms of the diagnosis of attention-deficit/hyperactivity disorder (ADHD), EBPA practices are well-established for children, and more recently for adults, but for college students in particular there are special considerations that warrant attention. College students with symptoms of ADHD have some challenges that are unique, and thus the assessment and diagnosis of ADHD in these students is unique. The aim of this review is *not* to cover all EBPA strategies for diagnosing ADHD in emerging adult college students; *rather, we will focus on the unique considerations at play in college ADHD assessment.* These include (a) conceptual matters such as the appropriateness of the *DSM-5* criteria for college students, the limitations of our understanding of ADHD this population because of a lack of diversity in research studies, and the issue of late-identified ADHD; and (b) practical matters, such as specific documentation needs, how to gather and interpret self- and other-report of symptoms, how to assess impairment, and alternate explanations for ADHD-like symptoms in college students.

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Evidence-based practice in psychology (EBPP) has long focused on treatment (e.g., therapy), but evidence-based psychological assessment (EBPA) is also critical because accurate and reliable diagnostic practices (Bornstein, 2017) can lead to more targeted treatment planning and therefore more successful treatment outcomes. EBPA for attention-deficit/hyperactivity disorder (ADHD) is well-established for children (Barkley, 2015; Pelham et al., 2005), and more recently for adults as well (Haavik et al., 2010; Ramsay, 2015), but for emerging adult (i.e., ages 18 to 25 years; Arnett, 2000) college students in particular there are some special considerations that warrant attention. Indeed, emerging adulthood is a developmental stage categorized by increasing financial, social, and academic independence, and higher education is characterized by requirements to attend long lectures, write lengthy papers, manage one's own time, and work toward a long-term goal.

As with other populations, EBPA for ADHD in college students calls for a multi-modal, multi-informant assessment, including a clinical interview, self-report rating scales, other-report rating scales, psychological testing, and assessment of developmental history,

impairment, and comorbidities (Weyandt & DuPaul, 2012). For papers on EBPA for ADHD in adult and college student populations, see Haavik et al. (2010), Ramsay (2015), and Weyandt and DuPaul (2012). In the current paper, *rather than review all of these EBPA steps, we will instead focus on both conceptual and practical considerations unique to college students when undergoing an evidence-based ADHD assessment.* The specific considerations addressed in this paper stem both from our expert opinion (i.e., as five experienced ADHD clinicians/researchers who oversee college student ADHD assessment in our respective on-campus clinics/private practices), as well as from empirical evidence.

In the following sections we will discuss conceptual issues such as the appropriateness of the *DSM-5* criteria for this population, diversity issues, and late-onset vs. late-identified ADHD. Next, we will offer practical suggestions for clinicians diagnosing ADHD in this age group in areas such as gathering and interpreting self- and other-report of ADHD symptoms and impairment, additional testing that might be warranted, specific documentation needs, and ruling out other explanations for ADHD-like symptoms.

Conceptual considerations

DSM-5 criteria and symptoms for college students

At a very basic level, the first thing to consider in the assessment of ADHD in college students is whether the *Diagnostic and Statistical Manual of Mental Disorder, Fifth Edition (DSM-5; American Psychiatric Association [APA], 2013)* criteria and symptoms of ADHD are appropriate for this population. It has long been understood that some symptoms of ADHD, such as “often runs about or climbs” and “often leaves seat” (APA, 2013, p. 60), were developed with and for elementary-aged boys (Barkley, 2015; Lahey et al., 1994), and thus may not be appropriate for girls, college students, and other adults.

To address this problem, the *DSM-5* (a) reduced the ADHD symptom threshold from 6 symptoms to 5 for older adolescents and adults (i.e., ages 17 years and older), and (b) added some adult-relevant parenthetical examples (e.g., added “cannot wait for turn in conversation” to the core symptom “often blurts out an answer”; APA, 2013, p. 60), but the core 18 symptoms remained the same (APA, 2013). These new parenthetical examples seem to make the *DSM-5* criteria more relevant for college students. Indeed, Lefler et al. (2020) found that college students endorsed slightly more symptoms of ADHD when using a rating scale with the new parenthetical examples (i.e., *DSM-5*) than without (i.e., *DSM-IV*), suggesting that the added statements might help make the symptoms at least somewhat more appropriate for college students. However, some authors have suggested entirely new ADHD symptoms for adults (e.g., changing plans at the last minute, procrastinating, poor follow-through on commitments, overreacting emotionally, and inconsistent quality of work; Barkley et al., 2007; Fedele et al., 2010). These new symptoms might be more relevant for college students and other adults, and have the potential to make diagnoses in this group more accurate and reliable. More research is needed on which particular symptoms would be most predictive for adults, especially given that the list of proposed symptoms includes approximately 90 new items (Barkley et al., 2007), and some research has suggested that these items might not be diagnostically sensitive (in a study of mostly boys diagnosed in childhood; Sibley et al., 2012). In Fedele et al. (2010), a factor analysis demonstrated that a subset of 17 items (including items such as have trouble putting my thoughts down in writing, make decisions impulsively, do things without considering the consequences, and overreact emotionally) might better predict ADHD status in college students as compared to the current *DSM-5* ADHD symptoms.

In terms of the diagnostic threshold for ADHD being changed from 6 symptoms to 5 for those 17 years and older, some have argued that the *DSM-5* did not go far enough. Indeed, Hartung et al. (2019) found that the *DSM-5* cutoff of 5 symptoms was no better at predicting impairment in college students than a cutoff of 6 symptoms. Rather, they found that using a threshold of 4 symptoms best differentiated college students with and without significant impairment. Similarly, Matte et al. (2015) found that a cutoff of 5 inattention symptoms but 3 hyperactive-impulsive symptoms would be best for adults. In a study of the factor structure of ADHD in college students, Flory et al. (2021) found some evidence that a one-factor model of ADHD might be best for this population. Specifically, they reported that, in a community sample of college students, the unidimensional model of ADHD (as opposed to a 2- or 3-factor model that separates inattention, hyperactivity, and impulsivity) was superior. This might suggest that for college students there is limited utility in separating the traditional ADHD symptom clusters; rather, it might be best to consider all ADHD symptoms together in diagnostic assessment.

Finally, the *DSM-5* requires the presence of symptoms before the age of 12 years for an ADHD diagnosis. However, little guidance is given about how many childhood symptoms are necessary. Dvorsky et al. (2016) shed some light on this, finding that at least 4 symptoms of parent-reported childhood ADHD in a college-aged client was a good cutoff for predicting current diagnosis, across both inattention and hyperactivity-impulsivity. Each of these considerations warrant further research to be considered in forthcoming editions of the *DSM*.

Late-onset vs. late-identified ADHD

In recent years, the concept of *late-onset or adult-onset ADHD* has become a subject of debate in terms of whether ADHD can present for the first time in adulthood (e.g., Asherson & Agnew-Blais, 2019; Cooper et al., 2018). This initially stemmed from several birth cohort studies in which adults were identified with ADHD who did not meet criteria in childhood (e.g., Agnew-Blais et al., 2016; Caye et al., 2016; Moffitt et al., 2015; M. J. Taylor et al., 2019). Furthermore, in reviewing studies that raised the question of adult-onset ADHD, it is notable that authors do not consistently distinguish between late-onset and *late-identified ADHD*. For both of these patterns, the individual is not identified or diagnosed until adulthood. However, in the case of truly late-onset ADHD, they would also not evidence any symptoms in childhood or adolescence and, therefore, would not meet *DSM-5* criteria (i.e., no

symptoms present before 12 years of age). In contrast, for late-identified ADHD, which is common in college students (DuPaul et al., 2009), the individual is not identified or diagnosed until adulthood, but there is evidence of symptoms in childhood or adolescence. Thus, they may meet *DSM-5* criteria (i.e., symptoms present before 12 years of age).

In many cases of late-identified ADHD, the individual has had ADHD symptoms since childhood but “slipped through the cracks” until they reached college. This might be due to factors such as doing reasonably well in elementary and secondary school due to relatively higher cognitive abilities (Agnew-Blais et al., 2016; Mitchell et al., 2021), informal accommodations/supports from parents and teachers (Kosaka et al., 2019; Mitchell et al., 2021), a lack of the more outwardly obvious hyperactivity/impulsivity and comorbid externalizing behavior problems (Agnew-Blais et al., 2016), and/or a difficult educational transition (Young et al., 2020). Indeed, impairment does not need to be present in childhood for a valid ADHD diagnosis in adulthood; only symptoms. If social adaptability and parental support guards against significant impairment in childhood, it does not rule out an adult diagnosis if significant impairment begins in adulthood. As Kosaka et al. (2019) argue, “When social adaptation abilities are insufficient, adaptation difficulties cause the expression of latent ADHD characteristics, leading to a diagnosis . . . If weaknesses that remained hidden in childhood due to adequate intelligence or environmental support are exposed in adulthood due to stress or other factors, [adult] ADHD may be diagnosed” (p. 754). Likewise, Young et al. (2020) state that, especially in women, significant impairment can be masked by compensatory behaviors, and this can delay identification. In brief, it seems that cases of *late-onset ADHD* (i.e., no evidence of ADHD symptoms in childhood) are often better explained by anxiety, depression, and/or substance use (Sibley et al., 2017) as discussed in a subsequent section of this paper; whereas, *late-identified ADHD* is relatively common on college campuses (Nugent & Smart, 2014). It is not unlikely for students to seek ADHD evaluations for the first time in college due to the decreased structure and increased demands of this academic environment, but this does not necessarily suggest late-onset ADHD.

Diversity considerations

One significant limitation of the research reviewed herein is that many demographic factors such as sex/gender, race/ethnicity, sexual orientation, socioeconomic status (SES), international student status, and

others are rarely discussed, and almost never considered central variables in most studies. Therefore, unfortunately, the conclusions that we draw in this paper are potentially only applicable to middle or upper-middle class White, cisgender/heterosexual students in Western countries who are enrolled in predominantly-White, 4-year institutions of higher education. Very little research is available that examines the intersection of ADHD with these aforementioned variables in emerging adult college students, and very little research focuses on technical or community college students.

However, we do have some evidence that demographic factors are important to consider when assessing ADHD in the college student population. For example, some studies have found higher rates of ADHD symptomatology in college women as compared to college men (Fedele et al., 2012; Jaconis et al., 2016 for hyperactivity symptoms). This is in contrast to the longstanding, well-established findings of a male preponderance of ADHD in childhood (Gaub & Carlson, 1997; Willcutt, 2012), and might suggest that something unique is happening for college women. Two possible explanations for this (i.e., self-handicapping and elevated internalizing symptoms) are discussed later in the paper. On the other hand, it is possible that because girls are more likely to be clustered in the inattentive presentation of ADHD and without obvious externalizing symptoms such as hyperactivity or oppositionality (Gaub & Carlson, 1997), they may be overlooked more often than boys in childhood and adolescence and diagnosis may thus be delayed into adulthood. These young women may experience pressure to obtain a college degree to better their job opportunities, but may struggle academically once they get to college, leading them to pursue an ADHD assessment. Boys with ADHD are more likely to experience externalizing symptoms, such as hyperactivity, and therefore are more likely to be identified and subsequently treated for their ADHD before graduating from high school (Gaub & Carlson, 1997). Rather than pursuing a college degree, these emerging adult males may be more likely to seek employment right out of high school. Indeed, male-dominated fields that require only a high school diploma and no higher education pay more than female-dominated fields with the same educational prerequisites (Miller & Vagins, 2018). This could lead to a female preponderance of ADHD in the college student population. On the other hand, some studies find that the male preponderance of ADHD continues into college (Ramos-Galarza et al., 2018) or that there is no sex/gender difference in these students (DuPaul et al., 2001; Jaconis et al., 2016 for inattention symptoms).

In a recent consensus statement on the identification and treatment of ADHD in girls and women, Young et al. (2020) posited that there are some aspects of ADHD that seem to be unique to women. Several of their points are relevant for the assessment of ADHD in college students. Specifically, they concluded that women with ADHD might show higher emotion dysregulation than men, and might be overlooked for a childhood diagnosis more often than men. Further, they list female-specific factors potentially related to ADHD (e.g., unintended/unwanted pregnancy) and a possible exacerbation of symptoms during the menstrual cycle (Young et al., 2020). Finally, they noted that women with ADHD (diagnosed or not) might particularly struggle with educational transitions, such as the transition to college (a point that is corroborated by Canu, Stevens, et al., 2020). Although this consensus statement sheds light on the issue of ADHD in girls and women, more research is needed on sex/gender variables in this and other mental health conditions (Hartung & Lefler, 2019).

Several studies also suggest that race/ethnicity is an important consideration in the assessment of ADHD in college students. In an analysis of physician office visits, Fairman et al. (2020) found that Black adults were 77% less likely to receive a diagnosis of ADHD than White adults. This trend suggests that we may have a problem with Black adults being underidentified and underdiagnosed, potentially because of racial discrimination in the medical system (Priest & Williams, 2018) or because of overdiagnosis of White adults. Although not a study of college students in particular, this trend is important to note by mental health professionals tasked with making this diagnosis in Black college students. Further, in a small qualitative study of ADHD in racial/ethnic minority women enrolled in college (Waite & Tran, 2010), the authors found that some of the concerns voiced by these women echoed the concerns of other college students with ADHD (e.g., low self-esteem; Lefler et al., 2016). On the other hand, some themes emerged that were specific to these racial/ethnic minority women, such as fears that their Black families might not trust the medical professionals, physicians, and/or prescriptions that are part of their ADHD treatment (Waite & Tran, 2010). Taken together, this research on ADHD in Black adults suggests that professionals must strive for culturally competent care, and must address the potential distrust that people of color may rightly have with regard to traditional medical/mental health clinics. Indeed, in an analysis of progress in the mental health profession in terms of providing services to racial and ethnic minority groups, DeCarlo Santiago and Miranda (2014) found that only approximately 21% of

psychiatrists, 13% of social workers, and 8% of psychologists were from racial/ethnic minority groups. Further, they found that in clinical trials there is typically little or no reporting of results by racial or ethnic group (DeCarlo Santiago & Miranda, 2014). Thus, it follows that most clinicians diagnosing ADHD in college students are White, and most studies of ADHD diagnosis and treatment either include mostly White participants and/or ignore race as an important variable. We can do better; this should be a priority for researchers and clinicians alike.

In terms of low SES, international, first-generation, and LGBTQ+ students, as well as students from rural communities, very little is known. What we can assume is that these statuses can make higher education more difficult, so when coupled with the multiple impairments facing college students with ADHD, it is safe to conclude that these students likely face many challenges. In all, more research is needed to fully understand ADHD in these diverse groups of college students.

Practical considerations

In the previous sections, we discussed conceptual issues related to the diagnosis of ADHD in college students. These are issues that certainly warrant more research attention, but may not be of acute importance for individual clinicians attempting to accurately diagnose a college student with ADHD. Thus, we now pivot to practical issues in the diagnosis of ADHD in college students, which we think will be more relevant to clinicians, but certainly many open research questions remain here as well.

Assessing reasons for seeking an ADHD assessment

It is important for the assessing clinician to begin the clinical interview by asking the college student why they are seeking an ADHD assessment. This information can help to guide the assessment and has important implications for how the assessment findings will be documented (see next section). However, it is critical for the clinician not to let the reason the student is seeking an evaluation have an undue influence on the evaluation results. Remaining objective can be difficult because clinicians naturally wish to ensure that the evaluation meets the needs of the client and as we know, there is no one laboratory test or other measure that can definitely indicate an ADHD diagnosis, so clinicians can be subject to bias. For example, if a student indicates they are seeking an ADHD evaluation in order to obtain accommodations on the Medical College Admission Test (MCAT), not diagnosing ADHD would mean that

accommodations could not be requested and the client's perceived needs would not be met. Some clients may get angry with this outcome, especially since ADHD evaluations can be an expensive and lengthy process. On the other hand, knowing this is the reason for self-referral might incline a clinician to suspect malingering or feigning. It is very important that the clinician recognizes these factors and communicates with the client early on in the clinical relationship that an ADHD diagnosis may not be the outcome of the evaluation, and what this means for the accommodation, medication prescription, or other reasons the student initially sought the assessment.

There are many reasons why a college student may seek out an ADHD assessment. First, they may not be doing well academically, and while this alone is not diagnostic of ADHD, the concerned student may perceive or be told they have difficulties with focus, organization, or other skills that map onto the disorder, prompting them to seek assessment and guidance for remediation efforts. Further, in our experience, some students have indicated that, during college, they have either learned about ADHD in one of their classes or been around new friends diagnosed with the disorder, and noticed in themselves a similar set of symptoms. Relatedly, as mentioned, a student may be seeking either general accommodations for college through their campus office of disability services, or specific accommodations on standardized tests required for entrance to graduate/professional programs (e.g., MCAT, Graduate Record Examination [GRE], Law School Admission Test [LSAT]). Finally, another reason for seeking an ADHD evaluation may be for the client to obtain prescription ADHD medication from their student health center or another physician.

Some of these reasons for seeking an ADHD evaluation (i.e., accommodations, medication prescription) are "higher stakes;" in other words, there are more consequential outcomes associated with the diagnosis. For instance, there has been growing concern in recent years about stimulant medication misuse (e.g., taking more than prescribed or without a prescription) and diversion on college campuses (e.g., Advokat et al., 2008; Hartung et al., 2013). There are multiple reasons that college students might misuse stimulants (e.g., improving academic performance, dieting, studying all night, partying; Lefler et al., 2016). Stimulant misusers believe that stimulants will improve their cognitive efficiency including concentration, memory, and productivity (Benson et al., 2015; Hartung et al., 2013). Yet the data are inconclusive regarding the impact on those who do not have ADHD. In fact, several studies of college students without ADHD have shown that stimulants do

not result in improved working memory or response inhibition (Cropsey et al., 2017; Ilieva et al., 2013; Weyandt et al., 2018). This example supports that, when evaluating college students for ADHD, it is important to consider the possibility that a student might feign ADHD, or exaggerate their symptoms, in order to obtain a stimulant prescription for misuse or diversion (Fuermaier et al., 2021) or for another reason (e.g., accommodations) or as a "cry for help." Feigning symptoms and general non credible reporting are important considerations for clinicians. Full consideration of these topics is beyond the scope of the current paper, but are covered in more depth elsewhere (e.g., Pollock et al., this issue; Potts et al., this issue; Wallace et al., 2019).

Particular documentation for college students

Closely linked to the reasons why they are seeking an ADHD evaluation, college students who present for an ADHD assessment may have very distinct documentation needs. Specifically, they may need careful documentation of their diagnosis and impairment in order to: (a) to receive official academic/classroom accommodations from their university's student disability or student accessibility office, (b) obtain a medication prescription from the university student health center, or (c) qualify for accommodations on standardized tests required for entrance to graduate/professional programs (e.g., MCAT, GRE, LSAT). Because of the possibility that college students with ADHD may not be well-suited for the detail-oriented task of navigating these often complicated requirements, the clinician may be in a position to offer help.

In terms of university offices for student accommodations and student health services, documentation requirements vary. However, in an analysis of 200 university's policies on documenting a student's ADHD, Lindstrom et al. (2015) found that 99% of universities required some documentation, and reported some general trends on documentation requirements. Specifically, the most common requirements were: evaluation by a qualified professional, a diagnostic statement, a statement of specific limitations/impairments, and recency of diagnosis. Because of the extreme differences in documentation requirements across college campuses noted by Lindstrom et al. (2015), we recommend that clinicians working with college students familiarize themselves with the reporting requirements of relevant offices/clinics when their client may wish to pursue academic accommodations and/or medications via their university or college. It is important to know that these reporting requirements may not be transparently described, as a recent examination of randomly

selected public universities' websites for student disability services indicated that descriptions of requirements were often unclear and/or difficult to find (Sorrell et al., 2018), and students and/or clinicians may need to contact student services offices for clarity.

With regard to standardized entrance exams for graduate/professional schools such as the GRE, MCAT, or LSAT, documentation requirements also vary. Like the university guidelines noted above, in general these entities seem to require a recent, comprehensive diagnostic report from a qualified professional that clearly documents the diagnosis and the functional impairments that cause the need for accommodations. As of this writing, the GRE, for example, requires that a comprehensive assessment include letterhead and a signature, a clearly stated diagnosis, a description of the limitations, developmental, educational and medical history, a list of all test instruments, a rationale for each requested accommodation, and the assessment must have been completed within the last 5 years (ETS Disability Documentation Guidelines, n.d.). However, because these guidelines vary from year-to-year and by test, clinicians should stay abreast of relevant changes.

The American's with Disabilities Act (ADA) provides a technical assistance document titled *Testing Accommodations*, which stipulates that documentation requirements must be reasonable and limited to the need for accommodations (U.S. Department of Justice, Civil Rights Division, 2015). Likewise, in an Association on Higher Education and Disability (AHEAD) statement, "Postsecondary institutions cannot create documentation processes that are burdensome or have the effect of discouraging students from seeking protections and accommodations to which they are entitled" (AHEAD, 2012, Non-burdensome Process section). Together, this suggests that both the ADA and AHEAD strive to protect a person's right to appropriate accommodations without unreasonable and burdensome documentation requirements.

Collecting self- and other-report of ADHD symptoms

A typical first step in an EBPA for ADHD in a college student is to understand how to best gather accurate self- and other-report of ADHD symptoms. In the assessment of ADHD in children and adolescents, adults in the youth's life have long been considered the primary reporters of ADHD symptoms (Barkley et al., 2002); for other disorders that emerge more often in adulthood (e.g., depression, anxiety), the client is typically the primary reporter of symptoms. Thus, the question for those who assess college students (and the broader emerging adult group) is this: Who is the best

reporter of ADHD symptoms? The answer is complicated, and when there are multiple reporters who do not agree or do not rate consistently across childhood and emerging adulthood (per *DSM-5* criterion that symptoms are present by age 12 years; APA, 2013), it is difficult to know how to best combine and interpret the diagnostic data (Martel et al., 2017).

Current symptom self-report

Self-report of current symptoms is a necessary component of an ADHD assessment for college students. Students should complete a self-report rating scale of their *DSM* ADHD symptoms in the last 6 months, and should be asked about these symptoms in a clinical interview. We recommend using the exact *DSM-5* wording rather than any rating scales based on the *DSM-IV*, as slight changes to the symptoms in *DSM-5* seem to make a difference in reporting (Lefler et al., 2020). This *DSM-5* scale can be created with anchors of *never*, *sometimes*, *often* and *very often*, with *often* and *very often* coded as indication of symptom endorsement. If the student is currently taking stimulant medication for ADHD, we recommend that they complete the rating scales once based on their unmedicated behavior and a second time based on their medicated behavior.

Current symptom self-report would seem to be relatively straight-forward; however, there may be concerns with reporting style in the self-reports of ADHD in college students. First, research has suggested that college students without any history of ADHD tend to report some symptoms of ADHD (Lewandowski et al., 2008). Specifically, these students reported, on average, just over two symptoms of inattention and just over two symptoms of hyperactivity/impulsivity despite no history of an ADHD diagnosis (as is similar in other diagnoses; e.g., people have some symptoms of anxiety and depression but do not meet the diagnostic threshold). Thus, this low level of endorsement falls short of the symptom cutoff in the *DSM-5* (i.e., 5+ symptoms of inattention, and/or 5+ symptoms of hyperactivity), but it is still noteworthy in understanding the full picture of ADHD in college students.

Second, self-handicapping occurs when a person claims or creates a barrier to their own success (i.e., an excuse to explain their poor performance; Jones & Berglas, 1978); these barriers lead to failures, but in using the excuse as a reason for the failure, the person can maintain a sense of competence. With regard to ADHD and self-handicapping in particular, Jaconis et al. (2016) reported that college women were more likely to engage in claimed self-handicapping (i.e., claiming the presence of an obstacle, real or imagined,

such as feeling sick) than college men, and this was related to higher endorsement of ADHD symptoms. The authors theorized that some reported symptoms of hyperactivity/impulsivity in these college women might be better explained by self-handicapping rather than as actual symptoms of ADHD (Jaconis et al., 2016). Making a similar conclusion, Suhr and Wei (2013) found that college student participants endorsed more ADHD symptoms following poor performance on a task described as a test of intelligence (as opposed to a neutral task), suggesting that ADHD symptoms might be used as a self-handicapping strategy. These results suggest that college students, and perhaps women in particular, might artificially inflate their self-report of ADHD symptoms in an effort to preemptively excuse their failures. On the other hand, over-reporting might be due to help-seeking behavior due to significant impairment (related to ADHD or other concerns), or could indicate deliberate symptom exaggeration (see Wallace et al. (2019) for a meta-analysis on malingering detection measures). Follow-up questions in a clinical interview may help a clinician start to understand a client's pattern of over-responding.

Conversely, some researchers have hypothesized that adults with ADHD might under-report their own symptoms (i.e., via Positive Illusory Bias [PIB]; Jiang & Johnston, 2012), as is commonly seen in children with ADHD (Owens et al., 2007). Indeed, Sibley et al. (2012) found that emerging adults (who had been diagnosed with ADHD in childhood; 87% male) under-reported their ADHD symptoms and impairment. These findings regarding over- and under-reporting one's own ADHD symptoms suggest that more research is needed to clarify this important issue. Specifically, we need to examine self-reports by: (a) sex/gender, (b) childhood-identified vs. late-identified ADHD, and (c) combined vs. inattentive presentation to better understand response styles. For example, it may be that boys who were diagnosed with ADHD-Combined presentation in childhood tend to underreport their symptoms in adulthood (e.g., PIB) and women who are being assessed for ADHD-Inattentive presentation for the first time in adulthood tend to overreport their symptoms (e.g., self-handicapping) in an attempt to get much-needed help.

Moreover, beyond potential self-handicapping and PIB, Nelson and Lovett (2019) found that 17% of ADHD self-reports were not valid, and that those with inadequate validity were significantly more likely to meet the diagnostic threshold for ADHD as compared to those with adequate validity. Thus, in this sample of college students, the authors reported a troubling pattern of invalid and/or exaggerated response styles, especially in those who would eventually meet the diagnostic

cutoff for ADHD. Taken together, we still recommend collecting these symptom self-reports, of course, but we encourage clinicians to gather collateral report(s) and conduct a thorough clinical interview, in which they consider the possible explanations for over- or under-reporting.

Current symptom other-report

Because of the potential liabilities in self-reported ADHD symptoms noted above, collateral or other-report of current ADHD symptoms is a necessary component of an EBPA for college ADHD. We recommend that the collaterals report on ADHD symptoms *and* impairment (more on impairment in the following section). Several research groups have concluded that other-report of current ADHD symptoms might be more accurate than self-report. For instance, Jiang and Johnston (2012) suggested that other-reports of ADHD symptoms should be given greater weight than self-reports in assessments of adult women. They found that women with high levels of ADHD were most likely to inflate their ratings of self-competence, and that collateral report more closely mapped onto impairment. This view is shared by other authors, including Sibley et al. (2012) who reported that self-report is less diagnostically sensitive as compared to parent report in a sample of mostly male young adults. Further, Martel et al. (2017) found that collateral reports of ADHD symptoms showed higher sensitivity than self-reports in a sample of young adult men and women, especially for several inattention symptoms. These authors concluded that collaterals provide unique information, and that a combination of self- and other-report, with an emphasis on inattention symptoms might be best (Martel et al., 2017).

However, debate remains over who might be the best collateral reporters for college students. Unlike childhood ADHD assessments, parents/guardians should not automatically be assumed to be the best reporters for current ADHD symptoms in their college-aged child, particularly for college students who are past their first year and no longer live at home with their parents. Rather, it is possible that a current roommate or significant other (i.e., best friend, romantic partner) has a better day-to-day appreciation for the client's current behaviors and impairments. For example, a client who loses their keys daily might not report this as unusual, and their parents might not be aware of the extent of the problem, but the roommate is familiar with the issue and the problems it causes. It is important for the clinician to help the client identify the best collateral reporter(s), rather than letting the client choose simply the most convenient reporters. Thus, talking to the

college student client about who might know their day-to-day behaviors best over the past 6 months is advised. More research is needed to determine the accuracy of, and how to select between, various potential raters (e.g., girlfriend vs. roommate). As with the self-report of ADHD, we recommend using the exact *DSM-5* wording of the 18 ADHD symptoms in an other-report rating scale, with anchors of *never*, *sometimes*, *often* and *very often*, with *often* and *very often* coded as indication of symptom endorsement. This scale may be given to the client to deliver to the collaterals that were decided upon, or may be mailed directly to them (along with other collateral rating materials mentioned below). In addition, for students in their first year of college, the clinician may want to more directly include a parent in the assessment process by conducting a clinical interview with the parent in addition to gathering other-report rating scales.

In terms of combining current ADHD symptom reports from the college-aged client and their informant(s), more research is needed. For instance, if a collateral endorses many more symptoms than the client (i.e., a discrepancy), which report do we trust? Our opinion is that neither report of current symptoms is perfect, and thus any discrepancy should be discussed in the clinical interview(s) and considered within the context of the rest of the assessment. Notably, the question of the *or-rule* vs. the *and-rule* comes into play when combining these results. The *or-rule* states that one should count a symptom as present if any reporter (i.e., the client *or* their collateral reporter) endorses it; whereas the *and-rule* states that at least two reporters must endorse a symptom. Nelson and Lovett (2019) reported that, as expected, the *or-rule* increases and the *and-rule* decreases the likelihood of meeting the diagnostic threshold. More research is needed on this question of how to best combine discrepant reports of current ADHD symptoms.

Childhood symptom report

Interpreting reports of childhood ADHD symptoms from both the college student client and their parent(s)/guardian(s) or other collateral reporters can prove to be difficult, as well. As Suhr et al. (2009) reported, in a community sample of college students, retrospective report of childhood ADHD symptoms was not specific to a current ADHD diagnosis. That is, college students with depression, for example, reported some childhood ADHD symptoms, making retrospective recall of childhood ADHD symptoms nonspecific to a young adult's current diagnosis (Suhr et al., 2009). Next, in two longitudinal studies of children diagnosed with ADHD, conclusions can be drawn about retrospective recall of

childhood symptoms of ADHD in those with ADHD symptoms recorded during childhood. First, Loney et al. (2007) found that adult men who had been diagnosed with ADHD in childhood rated themselves as having significant symptoms of ADHD in their childhood (i.e., little or no PIB, retrospectively), but that retrospective self-report of symptoms did not exceed 10% overlap with their childhood psychiatric chart ratings. That is, these men acknowledged significant symptomatology in their youth, but had poor validity for specific ADHD symptom domains. Similarly, as Miller et al. (2010) noted in their longitudinal study of ADHD symptoms, young adults (mostly male; 88%) had limited recall of childhood symptoms. Self-report of childhood symptoms was improved when the person currently displayed a particular symptom (e.g., a young adult who is currently disorganized would be more likely to recall disorganization in their past), but was generally poor (Miller et al., 2010). Thus, even in adults who were diagnosed in childhood, retrospective recall of ADHD symptoms is not highly reliable. It is worth noting, however, that *DSM-5* criterion B simply requires that "several" symptoms were "present" in childhood (APA, 2013); this criterion is notably vague.

Given the limitations of retrospective self-report of childhood ADHD symptoms, parents/guardians might be in an ideal position to provide other-report of childhood symptoms. In many cases, retrospective parent-report has been shown to be more accurate than retrospective self-reports (e.g., Miller et al., 2010; Von Wirth et al., 2020). For instance, Dvorsky et al. (2016) found that parent report of childhood ADHD was more predictive of an ADHD diagnosis than college student self-report, especially for inattention. More recently, in another longitudinal study, Von Wirth et al. (2020) found that adults' (93% male) current, retrospective ratings of their childhood ADHD symptoms were lower and did not correlate with their parents' ratings of symptoms from the original childhood assessment. There is nuance here, however, such that in Miller et al. (2010), parents were better than their older adolescent/young adult children at recalling childhood symptoms, but they were still not considered highly accurate. Further, Moffitt et al. (2015) reported that a minority of parents (23%) correctly recalled their child's core ADHD symptoms prior to age 12 years, leading to a problem of false-negatives. Thus, parent reports of childhood symptoms retrospectively might be better than self-report of the same, but there are still important limitations. Nevertheless, as long as the *DSM* carries a requirement for evidence of symptoms in childhood, this is necessary. To assess childhood symptoms, the *DSM* wording is still important, as Sibley and Kuriyan

(2016) found that the added parenthetical statements in *DSM-5* influenced ratings of ADHD symptoms in children as young as 11 years of age. Thus, once again we recommend using the exact *DSM-5* wording of the 18 ADHD symptoms, with anchors of *never*, *sometimes*, *often* and *very often*, with *often* and *very often* coded as indication of symptom endorsement. This can be filled out by the client (childhood self-report), and given to the client to deliver to the collateral reporter(s) (or can be mailed/mailed from the clinician).

Finally, it is important to note that there are some instances where a parent/guardian report is not possible for college students seeking an ADHD diagnosis (e.g., parents are deceased, parents have a religious or cultural opposition to the mental health profession, do not trust the field of psychology or do not believe in the existence of ADHD, or do not have an ongoing relationship with the client). In these cases, other relatives or adult siblings might be an option. Unfortunately, Loney et al. (2007) found that the non-ADHD brothers of young adult men with childhood ADHD were not especially accurate (i.e., did not closely match ratings from expert ratings) in rating their brother's childhood ADHD. Therefore, if parents are unable to provide collateral reports of childhood symptoms, the client should be asked if there is another person who might be able to do so, and the resulting information should be interpreted with caution. Alternatively, this criterion (i.e., symptoms present in childhood) may be demonstrated in other ways, such as by objective historical records (e.g., elementary school records, doctor's notes; more on this later). The take-home message about retrospective self- and other-report of ADHD symptoms is to consider them an imprecise but still important signal of whether symptoms were present in childhood, which is the requisite *DSM-5* criterion.

Assessing impairment in college students

One of the central criteria for any diagnosis is impairment that is related to the experience of symptoms, and ADHD is no exception. ADHD-related impairment in children has been documented across many domains, including home, school (both academic and disciplinary), peer and family relationships, sports and other extracurricular activities, and physical safety (e.g., accidental injury; Barkley, 2015). In adults, ADHD-related impairment impacts a similar breadth of issues, including those that become more relevant in emerging adulthood such as romantic relationships, employment and general vocational status, educational attainment, driving safety, and new aspects of risky behavior (e.g., unprotected sex, heavy substance use; Barkley, 2015).

College students in particular describe problems across these varied domains, but the area that is clearly most specific to this population is difficulty meeting the more rigorous requirements of coursework in higher education (for review, see DuPaul et al., 2009).

There may be a number of reasons why school-related impairment is not as readily apparent for a person prior to college. In most cases, being a college student already means that one is in a somewhat distinguished group when it comes to academic performance, and this is especially so for students with ADHD. For instance, some estimates suggest that the rate of attaining a college degree in young adulthood for those without ADHD is fully three times that of those with Combined-type ADHD diagnosed in childhood (48% vs. 15%, respectively; Kuriyan et al., 2013). College students being assessed for ADHD sometimes state that coursework in high school was so easy that their attentive ability was rarely strained and they rarely had to do work at home. Of course, this is something that is not unique to those with ADHD; many students, for many reasons, may struggle with the more rigorous demands of coursework in higher education. For those with or without ADHD, this could be due to a student having relatively weak intellectual abilities, variations in curriculum, expectations, or skill development across schools (i.e., some being better at college preparation), or degree of involvement of parents or other adults. In fact, individuals who are not diagnosed with ADHD until adulthood show higher cognitive ability than those diagnosed in childhood (Agnew-Blais et al., 2016; Mitchell et al., 2021), and parents of academically-successful high schoolers with ADHD have been shown to both encourage their child to take on responsibility for their schoolwork while also helping to organize their teenager's academic efforts (Howard et al., 2016; Sibley et al., 2016). Such parents may give reminders about work or upcoming tests, ask teachers for clarification or guidance on assignments, and/or institute a kind of "home study hall." Because many students leave home to pursue higher education, this type of supportive structure is likely to fall off dramatically (Heiligenstein et al., 1999), creating greater self-regulation and motivational burdens on new college students.

There are various indicators of ADHD-related academic difficulties among college students, such as difficulty keeping track of materials they need for class, staying focused during lecture-based classes, and persisting on challenging academic tasks. Again, such indicators may not be unique to ADHD, given the typical difference between high school and college curricula;

however, diagnosed students do withdraw from classes more often, tend to have lower achievement (i.e., grade point averages), and also take “breaks” (i.e., semesters without enrolling) more than students without ADHD (Advokat, Lane, & Luo, 2011; Fleming & McMahon, 2012; Weyandt et al., 2013). Further, ADHD has been negatively associated with college readiness, which includes managing and completing daily assignments, taking adequate notes, preparing for tests, and planning and writing substantial term papers (Canu, Stevens, et al., 2020). Qualitative study of college students with ADHD suggests that reading comprehension difficulties (due to distraction), having to retake courses for grade substitution, and low academic motivation should be added to this list of possible indicators (Lefler et al., 2016).

While students who are under evaluation for ADHD may note the aforementioned types of difficulties in their academic work, a clinician might have a difficult time deciding what meets the threshold for clinical impairment. The qualification of “significant impairment” has long been a subject of clinical judgment. Moreover, even in the quantifiable domain of academics, the only empirically clear indicator of impairment is course grades of “C-” or lower, as these push the students toward the cutoff for academic probation or dismissal at most universities. However, it is unclear *how many* such course grades warrant a decision of clinical impairment, and this is especially true given the vagaries of differences between instructors, level of instruction (e.g., freshman seminar vs. senior capstone), and even academic disciplines. As alluded to above, it is also not empirically sound to rely on differences in grades between high school and college coursework; decrements in the latter could be due to either ADHD-related problems, differences in course rigor, or other personal variables (e.g., demands of full- or part-time work that detract from performance, low motivation to complete degree in selected major). As such, we recommend using the anecdotal reports of college students regarding impairment as just one element of judging whether impairment might (or might not) support an ADHD diagnosis.

In addition to a clinical interview and clinical judgment, we suggest that clinicians use a measure of impairment, as gathering impairment data is often overlooked (Gathje et al., 2008). We have found the *Weiss Functional Impairment Rating Scale* (WFIRS; Weiss, 2000) to be particularly useful with college students. The WFIRS taps seven domains of impairment (i.e., family, work, school, life skills, self-concept, social, and risky behavior), and has been validated in the college student population, demonstrating internal and cross-

informant reliability, concurrent and predictive validity, and clear differentiation between students identified with *DSM-5*-referenced ADHD and those without (Canu, Hartung, et al., 2020). It may be important to note that the WFIRS has elsewhere been shown to be susceptible to biased responding in experimental (Fuermaier et al., 2018) and clinical samples (Suhr et al., 2020); findings from at least one other malingering simulation study with a rating scale that is not specific to ADHD-related problems suggests that over-reporting is a potential risk with self-reported impairment, in general (Suhr et al., 2017). As such, clinicians should use the WFIRS self-report as a springboard for a more targeted clinical interview about current and past impairment, and should perhaps consider including measures that might help to detect invalid reporting in their assessments (see Pollock et al., this issue; Potts et al., this issue; Wallace et al., 2019). Finally, we also recommend adapting and using an other-report version of the WFIRS so that corroborating impairment data can be gathered. As with collateral reporters for ADHD symptoms themselves, the clinician should discuss with the client the best person to provide this report, and should coordinate delivery to this person.

Objective historical records

Clinicians should also consider requesting objective historical records from the client and/or their parents. These records can include past report cards from elementary, middle, and high school, college transcripts, past ADHD or other psychological evaluation reports, medical records, and individualized assessment plans (IEPs) from primary or secondary school. These records can help to corroborate student reports of childhood and current ADHD symptoms, associated impairments, and current accommodation needs, and often provide relatively unbiased information. However, in our collective clinical experience, college students often do not have easy access to all of these historical records, and it is important to keep in mind that the quality of prior evaluations by physicians and/or other mental health professionals can vary. Therefore, although objective historical records can provide additional data, they should be considered alongside the other information collected in the evaluation.

Ruling out alternative explanations for ADHD-like symptoms

Another consideration when conducting EBPA for ADHD with college students is the importance of assessing for and ruling out alternative explanations for

ADHD-like symptoms. These alternate explanations include other psychological disorders, such as anxiety, depression, high functioning autism spectrum disorder (ASD), specific learning disorders (SLD), or below-average cognitive functioning, which may better account for the ADHD-like symptoms and related impairment than ADHD itself. In addition, there are other behavioral factors common to college students, such as poor sleep habits and increased use of substances, which may account for ADHD-like symptoms in this population. It is important for the assessing clinician to possess a good understanding of these factors that may potentially better account for ADHD-like symptoms, and to include measures in the assessment and questions in the clinical interview to rule in or out such explanations.

Several psychological disorders present with symptoms that overlap with the core symptoms of ADHD. For example, difficulty concentrating and problems maintaining focus are key features of both anxiety and depression (APA, 2013). An internalizing disorder such as this might first present as difficulty focusing on long lectures and restlessness in class, which might be mistaken for ADHD. Anxiety and depression occur at high rates among college students in general, and women are particularly vulnerable (e.g., Rosenthal & Schreiner, 2000; Wenjuan et al., 2020). In order to screen for anxiety, depression, and other psychological disorders that may better account for ADHD-like symptoms in college students, we recommend that the assessing clinician administer a broad-band, self-report measure that taps several areas of psychopathology. In addition, self-report measures specific to depression and anxiety could be utilized. A detailed clinical interview can also help determine which symptoms are currently present and whether key ADHD symptoms were present developmentally. A detailed history of symptoms, corroborated by the other report, can help to rule out competing explanations for these ADHD-like symptoms in college students.

SLD, below-average cognitive functioning, and high functioning ASD may also be associated with ADHD-like symptoms (e.g., difficulty focusing, reluctance to engage in tasks that require mental effort) and may result in social and academic impairments that are similar to those experienced by students with ADHD (APA, 2013; Bolourian et al., 2018). Therefore, it is also crucial to rule out these disorders as explanations for a student's ADHD-like symptoms. Although it is unlikely that individuals with severe learning disorders, very low cognitive ability, or lower-functioning ASD will have matriculated into college without these difficulties being previously identified, it is possible that students

with milder difficulties may be in college and may present for an ADHD assessment. The following section of this review discusses in detail the additional testing that may be necessary to rule out SLD and below-average cognitive functioning as explanations for ADHD-like symptoms. To rule-in or rule-out high-functioning ASD in this college student population, we recommend first screening for autism in the clinical interview, and if indicated either conducting a semi-structured diagnostic interview for autism or referring to an autism specialist.

There are several behavioral factors that are common to college students that should also be ruled out as the cause of ADHD-like symptoms. One such factor is poor sleep habits. The combination of increased independence of college students (i.e., parents no longer setting rules for curfew and bedtimes), ample opportunities for socializing into the night, biological drive for later bedtimes and need for greater sleep among adolescents (Galvan, 2020), and early classes often results in college students having poor sleep habits and getting less than adequate nightly sleep (Becker et al., 2018). Evidence suggests that inadequate sleep and the resultant fatigue can manifest in ADHD-like symptoms, such as poor concentration, difficulty focusing, and restlessness which increase the likelihood of misdiagnosing ADHD in college students with sleep problems (e.g., Gloger & Suhr, 2020; D. J. Taylor et al., 2013). Given this evidence, we recommend that the clinician inquire about the student's sleep patterns during the clinical interview, and possibly include a self-report measure of sleep quality to rule out sleep problems as a better explanation of the ADHD-like symptoms.

Finally, frequent and heavy substance use is a behavior that is relatively common among college students and can result in ADHD-like symptoms. Compared to young adults who are not attending college, more college students report having been drunk during the past 30 days (35% vs. 28%) and binge drinking (i.e., drinking five or more drinks in a row) during the past two weeks (33% vs. 22%; Schulenberg et al., 2020). Twenty-six percent of college students report marijuana use during the past 30 days and students also use other illicit drugs, albeit to a lesser degree (Schulenberg et al., 2020). Evidence suggests that, in many cases, ADHD-like symptoms that first emerge during young adulthood can be better accounted for by heavy substance use (e.g., Sibley et al., 2017). Therefore, when assessing a college student for ADHD, it is important to measure substance use, and when use is heavy, to ask about ADHD-like symptoms both in the presence and absence of substance use. To assess for substance use problems, we recommend

including screener questions in the clinical interview, and then following up with self-report measures of alcohol and drug use/abuse if potential problems are indicated during the interview.

It is important to note that each of the psychological and behavioral factors discussed in this section as alternative explanations for ADHD-like symptoms also commonly co-occur with ADHD, further complicating the teasing out of which symptoms are due to ADHD and which can be attributed to the co-occurring disorder. For example, anxiety and depression frequently co-occur with ADHD among college students with a recent study finding that 32.3% and 28.6% of students who met criteria for an ADHD diagnosis also met for a depression or anxiety diagnosis respectively (vs. 5.4% and 3.6% of the comparison group; Anastopoulos et al., 2018). ADHD also frequently co-occurs with SLD (Anastopoulos et al., 2018) and ASD (Lau-Zhu et al., 2019). With respect to the behavioral factors, sleep difficulties are common among adults with ADHD (Wajszilber et al., 2018) and are in fact often an undesired side effect of ADHD stimulant medication (Kidwell et al., 2015). Evidence also suggests a greater impact of poor sleep on executive functioning deficits among college students with symptoms of ADHD (Cifre et al., 2020). Finally, ADHD is strongly associated with heavy substance, particularly alcohol, use and problems associated with use among college students (Rooney et al., 2015, 2012). That these co-occurrences are common among college students is another reason that EPBA for ADHD in college students should assess for these psychological and behavioral factors.

Additional psychological testing considerations

General cognitive ability

Cognitive/IQ testing has traditionally been recommended as a standard part of an evidence-based ADHD assessment for children to rule out significant developmental delays as a cause of the ADHD symptoms (Barkley, 2015; Pelham et al., 2005). However, because it is unlikely that individuals with intellectual disability will enroll in college, the value of these measures for the assessment of college students is less clear. If the developmental history and results of the rest of the evaluation do not indicate concerns in this area, the examiner can forego IQ testing or an abbreviated standardized IQ test will likely be sufficient for ruling out cognitive delays as an explanation of the ADHD symptoms. If a full IQ is needed, a more comprehensive standardized IQ test could be administered.

Achievement/specific learning disorders

On the other hand, ADHD is significantly associated with impairment in a range of academic domains, and approximately 25%–35% of the general population of individuals with ADHD meet criteria for an SLD in math, reading, or written language (e.g., DuPaul et al., 2013; Frazier et al., 2007; Willcutt et al., 2012). Additional systematic research is needed to estimate the prevalence of comorbid SLD among college students with ADHD based on standardized measures of academic achievement, but both college students and their parents report that students with ADHD have a significantly higher rate of previous SLD diagnoses than those without ADHD (e.g., Anastopoulos et al., 2018).

Some authors have argued against including measures of academic achievement as part of adult ADHD assessments because evidence-based interventions for adult-identified learning disorders are limited (Ramsay, 2015). However, among individuals with ADHD in late adolescence and emerging adulthood, the presence of comorbid SLD is associated with greater functional impairment, higher rates of comorbid internalizing and externalizing symptoms, and less positive academic outcomes across a range of domains (e.g., Willcutt et al., 2007). Therefore, it may be important to identify comorbid SLDs in college populations with ADHD to facilitate access to support services and accommodations if indicated (e.g., DuPaul et al., 2013). We recommend screening for significant academic skills deficits or previous SLD diagnoses as part of the clinical interview and/or by using a standardized academic achievement screening battery that can be completed relatively quickly. If this initial screening indicates a possible concurrent SLD, a more comprehensive evaluation can then be completed.

Neuropsychological testing

The use of neuropsychological tests in the assessment of ADHD continues to be controversial (e.g., Barkley, 2019; Mapou, 2019). There are two issues that prevent us from using these tests diagnostically. First, a primary neuropsychological deficit that is present in every individual with ADHD has not been identified. Instead, at least five areas of neuropsychological weakness increase risk for ADHD, including weaknesses in processing speed, sustained attention, and executive functions such as behavioral disinhibition and working memory (e.g., Willcutt, 2015). Any particular laboratory task will likely only measure one or two of these deficits, and not all college students with ADHD will have that particular deficit.

The second issue is that while laboratory tests (e.g., continuous performance tests, CPT) have consistently been found to differentiate *groups* of people with ADHD from *groups* of people without ADHD (e.g., McGough & Barkley, 2004; Willcutt et al., 2005), the moderate effect sizes in these studies indicate that each task explains a maximum of about 10% of the variance in ADHD symptoms in the population. The distributions of scores in groups with and without ADHD are meaningfully different but highly overlapping, such that many individuals with ADHD perform better than many individuals without ADHD. For example, a study of an undergraduate sample found that despite significant differences between groups with and without ADHD, only 20% to 35% of undergraduate students with ADHD exhibited a significant weakness on any specific measure of processing speed, sustained attention, or executive functioning (e.g., Willcutt, 2015). These results support that neuropsychological tests cannot be used to reliably confirm a diagnosis of ADHD in an individual person (Barkley, 2019; McGough & Barkley, 2004).

ADHD researchers are currently in agreement that neuropsychological tasks cannot be reliably used to diagnose ADHD as stand-alone measures. However, debate continues regarding the use of neuropsychological measures (e.g., CPT) as one piece of information in a multimethod assessment (e.g., Barkley, 2019; Mapou, 2019; Nigg, 2006). For example, Nigg (2006) recommended using a CPT to measure vigilance performance. Nigg indicated, as we have explained above, that average performance on the CPT should not be considered evidence that an individual does not have ADHD, but that poor performance can be viewed as one additional piece of information in favor of a diagnosis and to guide recommendations. This could potentially be useful in the college setting when other pieces of information are not available (e.g., reliable collateral reporters). However, we believe the risks (e.g., inadvertently relying too heavily on this piece of information) currently outweigh the possible advantages (e.g., helping to guide recommendations). More research is needed to demonstrate whether it is possible to use this as one piece of information and not have it influence our diagnostic conclusions too heavily. In addition, more research and guidance is needed to instruct clinicians on exactly how this information might impact their treatment recommendations. Therefore, we do not recommend the inclusion of neuropsychological measures as part of a standard ADHD assessment battery in college students.

Conclusion

In the current paper we laid out, in the context of regular EPBA practices for assessing ADHD in adults

(Haavik et al., 2010; Ramsay, 2015), some issues of unique importance for assessing ADHD in emerging adult college students. These included conceptual issues such as the validity of the *DSM-5* symptoms/criteria of ADHD for college students, the distinction between late-onset vs. late-identified ADHD, and the lack of diversity in research with college students with ADHD, specifically around sex/gender and race/ethnicity. We also highlighted many practical issues (i.e., those more directly relevant for a diagnosing clinician) such as assessing the reasons a college student is seeking a diagnosis, considering the documentation needs of the college student, and carefully collecting and interpreting self- and other-report of ADHD symptoms and impairment. We also discussed issues related to determining whether additional testing might be necessary, and the importance of ruling-out alternative explanations for ADHD-like symptoms in making a conclusion about the ADHD diagnosis. We hope to have provided a useful resource for clinicians tasked with assessing ADHD in college students.

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