

Is There an App for That? Apps for Post-Secondary Students With Attention Hyperactivity Disorder (ADHD)

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Abstract

We compiled a comprehensive list of apps related to coping with academic work by post-secondary students with attention deficit hyperactivity disorder (ADHD) by examining 23 recent sources. Most of these were based on the opinion of single individuals, including persons with ADHD and experts. To discover relatively common apps, we summed the number of sources that mentioned each app and then checked with the Apple App Store and the Google Play Store to ensure availability in the summer of 2020. In the process it became apparent that while most apps directly supported schoolwork (e.g., calendars, timers, reminders) there were a variety of apps that, while not directly related to schoolwork, were apps that can support academic achievement by dealing with daily life demands (not ADHD therapy or assessment). We categorized apps related to both *schoolwork* as well as to aspects of *daily life demands* that can make academic work easier. Here we present the 20 most frequently mentioned schoolwork related apps and the eight most frequently mentioned daily life demands apps. Our findings suggest that if access coordinators, campus disability service providers, ADHD coaches and students with ADHD focus solely on schoolwork related apps, they will be missing an important part of the equation. They need to broaden their scope to ensure that students also have the help they need to structure and manage their daily life responsibilities, rather than simply focusing on doing schoolwork.

Keywords: attention deficit hyperactivity disorder, ADHD, apps, post-secondary, college students, schoolwork

1. Introduction

1.1 Introduction of the Problem

Attention deficit hyperactivity disorder (ADHD) affects between 28% and 38% of post-secondary students with disabilities (Gagné, Tremblay, & Bussi eres, 2020; Fichten et al., 2019). It often co-occurs with learning disabilities (DuPaul, Gormley, & Laracy, 2013). ADHD symptoms can include: impulsiveness, disorganization, difficulty prioritizing tasks, poor time management skills, problems focusing on a task, trouble multitasking, excessive activity or restlessness, poor planning, low frustration tolerance, frequent mood swings, difficulty following through and completing tasks, hot temper, and trouble coping with stress (Mayo Clinic, 2019).

1.2 Importance of the Problem

Given such symptoms and the importance of time management and organization skills for success in college, it is not surprising that college students with ADHD often have academic difficulties (Green & Rabiner, 2012). Moreover, data show that students with ADHD have difficulty with personal situations (e.g., study habits, motivation), and course-related self-efficacy (e.g., time management, keeping up-to-date with schoolwork) (Budd, Fichten, Jorgensen, Havel, & Flanagan, 2016). The following school related ADHD symptoms and challenges were recently reported by 52 college students: "staying focused, managing time, extensive writing assignments, reading comprehension of textbooks or academic publications, organization, completing homework, memorizing and retrieving information from memory, following multistep directions, expressing thoughts or opinions clearly, following others when they speak in conversation, applying different approaches to one problem, and initiating activities, tasks or independent ideas" (Kreider, Medina, & Slamka,

2019, Table 2). Considering these difficulties, it is not surprising that the academic performance of post-secondary students with ADHD is often poor (Budd et al., 2016).

1.3 Relevant Scholarship

The American Academy of Child and Adolescent Psychiatry (2019) noted that it can be normal for students to experience a lack of focus as well as feelings of distraction, being overwhelmed, and disorganization when they pursue college studies. College students often have demanding schedules with various responsibilities; coursework being just one of them (Ahrens, Lee, Zweibruck, Tumanan, & Larkin, 2019). Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD, 2018) commented that, “self-care practices are part of the behavioral management of ADHD. Sometimes referred to as ‘coping skills,’ they are the structures that allow someone to meet daily life demands.” These include activities such as managing one’s finances, relationships, sleep, and jobs.

A recent EDUCAUSE review (Seilhamer, Chen, Bauer, Salter, & Bennett, 2018) reported that 99% of American college students owned a smartphone. In addition, in their study of 46 post-secondary students with disabilities and a matched sample of 46 students without disabilities Chmiliar and Anton (2018) found 100% smartphone ownership.

While there are many listings of potentially useful smartphone and tablet apps for students with ADHD, we were unable to find any studies that actually showed apps to be effective in improving the academic outcomes of students. Indeed, the only empirical investigation (Gortsema, 2019) showed that within a sample of 14 “neurodiverse” students, including some students with ADHD, 10 of 21 apps listed were identified as being helpful, although only one app, MyHomework, was selected by more than one student. Nevertheless, there are many articles published for students with ADHD with titles such as “the best 10 apps for learners with ADHD.” But how many of these are idiosyncratic preferences of specific individuals and how many are frequently used or excellent apps? Although there is a scientific literature on apps for students with ADHD, studies typically involve therapy and assessment (see Păsărelu, Andersson, & Dobrea, 2020).

1.4 Goals and Their Correspondence to Research Design

Our goal was to compile a comprehensive list of apps available in 2020 related to coping with academic work by post-secondary students with ADHD. When we explored apps, it became apparent that most apps directly supported schoolwork (e.g., calendars, timers, reminders). However, we also came across a variety of apps that, while not directly related to schoolwork, were apps that can support academic achievement by dealing with daily life demands. Therefore, we categorized and examined apps for post-secondary students with ADHD related to both *schoolwork*, as well as to aspects of *daily life demands* that made doing schoolwork easier.

2. Method

Our goal was to compile a comprehensive list of apps related to the academic performance of post-secondary students with ADHD. To achieve this, in the summer of 2020 we examined 23 sources. The selection of these sources was based on web searches using Google and Google Scholar for the years 2017 to 2020 (July) with the following key words “ADHD and apps and college.” In addition, we checked the past three years of ADDitude Magazine, and the web site of the Canadian ADHD Resource Alliance (CADDRA) as well as the archive of the Canadian Association of Disability Service Providers in Post-Secondary Education (CADSPPE). We also joined and examined apps posted on four ADHD Facebook groups (ADHD West Island Parents, How to ADHD, ADHD Foundation, and ADHD Apps and Technology). In addition, we looked through the Apple App Store and the Google Play Stores with the keyword ADHD and examined the first 20 apps that appeared and were associated with education and schoolwork apps, rather than with therapy or assessment. We also referred to a 2018 Adaptech Research Network study involving focus group participants with ADHD. References to published sources for the apps are available in Appendix A.

2.1 Exclusions

We discarded apps that were for children, those that required an external support (e.g., Livescribe, Tile) and those that attempted to teach students (e.g., Math Ninja) or treat ADHD (e.g., Lumosity). To ensure that the apps are available in 2020 we visited the Apple App Store and the Google Play Store in August 2020.

3. Results

We posted an annotated list of all apps available in August 2020, along with the frequency with which each was mentioned by our 23 sources on the Adaptech Research Network web site.¹

We provide schoolwork related apps available for iPhones or Android phones in Table 1. This shows that the most common apps relate to task management. Features include note taking, daily planners, prioritizers, progress trackers, reminders,

¹ <https://adaptech.org/publications/comprehensive-list-of-apps-related-to-the-academic-performance-of-post-secondary-students-with-adhd/>

and apps that acknowledge task completion. Other commonly noted apps include those that deal with focusing and distraction management, time management, and organization. Literacy and text-to-speech apps are also relatively common. Table 2 shows frequently mentioned daily life demands apps. The most common apps relate to budget and financial tracking and to email management.

Table 1. Frequently mentioned schoolwork related apps

Total Mentions	Available for iOS	Available Android	Name of App	Brief Description
9	Yes	Yes	Evernote	<i>Task management</i> and note taking app that helps keep all notes in one place
6	Yes	Yes	Microsoft To Do / Wunderlist	<i>Task management</i> app with a daily planner. Breaks tasks down into simple steps
5	Yes	Yes	Todoist	<i>Task management</i> . Prioritizes tasks, daily and weekly goals. Rewards for completion
4	Yes	Yes	Asana	<i>Task management</i> . Helps set goals and track progress using a Gantt chart
3	Yes	Yes	Remember the Milk	<i>Task management</i> . Reminders by email, text, and Twitter. Works across all devices
3	Yes	No	Due	<i>Task management</i> . 'Auto Snooze' repeatedly reminds the user of overdue reminders
5	Yes	Yes	Freedom	<i>Focusing</i> , distraction management. Blocks websites, apps, etc. for specific time periods
4	Yes	Yes	Focus@Will	<i>Focusing</i> music subscription service. Customizes music for different activities
3	Yes	No	Forest	<i>Focusing</i> . Virtual tree helps avoid one's smartphone for specific time periods
6	Yes	Yes	RescueTime	<i>Time management</i> app. Tracks time spent on apps, websites, and specific documents
4	Yes	Yes	Time Timer	<i>Time management</i> . Visual countdown timer. Helps notice time remaining for a task
4	Yes	Yes	IFTTT (If This Then That)	<i>Organization</i> . Connects apps, services, and devices to automate tasks
3	Yes	Yes	Dropbox	<i>Organization</i> . Online file hosting. Store all files in the same place, across all devices
3	Yes	Yes	Dragon Anywhere	<i>Literacy</i> . Dictation for writing documents
3	Yes ²	Yes	Read & Write	<i>Literacy</i> . Provides text-to-speech, word prediction, and other literacy tools
3	Yes ¹	Yes ¹	Learning Ally	<i>Text-to-speech</i> and human-narrated audio textbook library
3	Yes	Yes	Voice Dream Reader	<i>Text-to-speech</i> . Provides reading with synchronized highlighting
5	Yes	No	Mindnode 5	<i>Mind-mapping</i> . Brainstorming tool. Users can add visual tags to track progress
3	Yes	Yes	Quizlet	<i>Study app</i> . Uses flashcards and games to facilitate user learning

¹ United States only.

² iPad only

Table 2. Frequently mentioned daily life demands apps

Total Mentions	Available for iOS	Available Android	Name of App	Brief Description
4	Yes	Yes	Mint	<i>Budget and finance tracking</i> . Makes money management simpler and more seamless
2	Yes	Yes	YNAB (You Need a Budget)	<i>Budget and finance tracking</i> . Helps track money, credit cards, accounts and spending
3	Yes	Yes	Unroll.Me	<i>Email management</i> . Helps unsubscribe with one click
2	Yes	Yes	Boomerang Mail	<i>Email management</i> . Schedules sending emails, snooze messages. Checks if email is read
3	Yes	No	Routinist	<i>Time management</i> . Times daily routines such as morning, going to work, and sleep
3	Yes	Yes	Sleep Cycle	<i>Sleep monitoring</i> . Sets wake up alarm when users are in their lightest sleep phase
2	Yes	Yes	White Noise	<i>Focusing</i> . Reduces distraction, improves sleep. Sounds of the environment block noise
2	Yes ¹	Yes ¹	Google Voice	<i>Telephone</i> . Phone number, text, voicemail, voicemail transcription across all devices

¹ United States only.

4. Discussion

Given the symptoms and academic challenges that students with ADHD often face (Budd et al., 2016; Kreider et al., 2019; Mayo Clinic, 2019) it is not surprising that the most frequently noted apps related to schoolwork. However, as mentioned earlier (Ahrens et al., 2019; CHADD, 2018), students with ADHD also have daily life demands that must be addressed in order to succeed in school. Consistent with their views, we also found a variety of frequently mentioned apps related to self-care practices that can facilitate academic success.

4.1 Schoolwork

Our findings show that the most frequently mentioned apps for post-secondary students with ADHD deal with schoolwork related topics. These deal with task management, focusing and managing distraction, time management and organization. Although literacy software was also relatively frequently mentioned, this may be linked to the common comorbidity of a learning disability. Alternately, students with ADHD may use text-to-speech to assist in reading comprehension and as a tool for revision. Many students with ADHD tend to skip over words and lines while reading and do not notice missing words or errors due to inattention. It is noteworthy that many of the apps work across a variety of devices, including computers and tablets along with smartphones. This allows students to access their information wherever they are.

4.1.1 Task Management

Features of many of the task managing apps include keeping notes and documents in one place to prevent students from losing these. Some apps incorporate a "smart" personalized daily planner that gives suggestions to update the student's

to-do-list. Other apps break tasks down into simple steps, help students stay on track by allowing them to add due dates and set reminders and send students notifications. Students can get reminders from various sources, including e-mail, text, instant messaging, and mobile apps. Some apps allow students to color-code their to-do lists and identify recurrent tasks. Some apps provide automatic tracking of how long a student spends using specific apps and websites, as well as time spent working on certain documents; this gives students information about what gets in the way of their productivity. One app automatically adds the event in a calendar when the student receives an email about an event. Another task managing app has an 'auto snooze' feature that repeatedly reminds the user of overdue reminders until they are marked as complete, rescheduled, or the 'auto snooze' feature is turned off. Task managing features can also help students prioritize their tasks, allow them to set daily and weekly goals, track their progress in completing these goals and reward students when they complete a task. An interesting feature of one of the apps (Asana) is a Gantt chart to build a timeline and help students recognize how much work they have left to do.

4.1.2 Focusing

Some apps in this category work by managing distraction through blocking websites, apps, or the internet for a specific duration. Other apps aim to keep the student focused by customizing and slightly changing the characteristics of music at specific time intervals. In an interesting app in this category (Forest) students determine how long they wish to stay away from their phone. The user then starts the app and a virtual tree is planted. The tree continues to grow as long as the student does not use their smartphone. If the student uses their smartphone before the specified time expires the tree will die. Users can grow multiple trees, create forests, and compare these with their friends to stay motivated.

4.1.3 Time Management

Several apps in this category provide automatic tracking of how long an individual spends on apps and websites, as well as on working on specific documents. In this way the app gives students information about what gets in the way of their productivity. Another provides a means of inserting information in apps so that there is no need for retyping (e.g., get an alert as soon as there's a new Google listing that matches one's search).

4.1.4 Organization

One of these apps is an online file hosting service that allows students to store all their files in the same place and access their files on all their devices. Another provides a means of inserting information in apps so that there is no need to retype them (e.g., get an alert as soon as there's a new Google listing that matches your search).

4.2 Daily Life Demands

There were also a variety of apps related to daily life demands. These include budgeting and managing one's money, organizing emails, focusing to help with sleep, and managing time (e.g., how long it takes to have breakfast, when one needs to leave for school).

4.2.1 Budgeting

Two apps deal with budgeting and managing one's money. One brings together students' bank accounts, credit cards, bills and investments so they know where they stand, see what they're spending and where they can save money and avoid late fees. Another app also teaches users better financial skills and helps them develop good spending habits, which become life skills that they can use in the future.

4.2.2 Emails

We all have the experience of having to deal with a large number of emails in our Inbox, including unwanted "subscriptions" to various sites. One of the email management apps helps students unsubscribe from unwanted emails with one click. It can also help students combine their favorite email subscriptions into a digest. Another app can schedule optimal times to send e-mails, "snooze messages," see if the recipient reads the email, and provide a reminder if someone does not reply to an email.

4.3 Limitations

We were not able to find information on the number of downloads for each app. Also, we do not provide ratings of the apps because these can be misleading when there are very few respondents. We do not provide the cost of the apps since these can change very quickly, although most are free or under \$10. Of course, some have trial periods, but again, this kind of information changes quickly, so we did not include this. However, the most serious limitation is that we are dealing with apps mentioned by single individuals and by experts, and not by numerous students with ADHD. Work in this area is currently proceeding in our laboratory.

4.4 Implications

Is it worth mentioning that there is not a lot in the literature about this topic. That leads us to question whether students

are being sufficiently informed of the apps that might be useful. While most access specialists and campus disability service providers are aware that students with ADHD need schoolwork related assistance, it is important to note that being a successful student involves more than schoolwork. Academic success also requires a variety of coping skills to deal with daily life demands (Ahrens et al., 2019). For example, as CHADD (2018) noted, coping skills such as getting to school, going to bed to sleep, scheduling relaxation times, and managing one's budget are also important.

To function well academically requires that things in one's environment also function well. If students have no money to get to class, they don't get there. If students can't get to class because they have multiple jobs, they won't do well. If students don't have an alarm that wakes them, they may not get up in time for class.

5. Conclusion

The popular apps in the daily life demands category remind us that if access coordinators, campus disability service providers, and students with ADHD focus solely on schoolwork related apps, they will be missing an important part of the equation. They need to broaden their scope to ensure that students also have the help they need to structure and manage their daily life responsibilities, rather than just focusing on helping with schoolwork.

The end goal of the research was to compile a current and comprehensive list of apps, available in August 2020, related to coping with academic work by post-secondary students with ADHD. However, with the pace of change of technology and apps, it is probable that the list will become outdated in a short period of time. As the methodology and a list of relevant sources have now been described, there would need to be a willingness to update the list of apps at reasonable intervals.

There was no intention on our part to rate the apps as this would require students with ADHD to try using these. Apps were mentioned by single individuals and by experts, and not by numerous students with ADHD. Therefore, we included only those apps where at least three sources mentioned a schoolwork related app and where at least two sources mentioned a daily life demands app.

The next step is to gain more quantitative and qualitative information: first to ascertain what apps students with ADHD actually use - and their level of satisfaction with these - and second to interview, individually or in focus groups, post-secondary students with ADHD. Work has begun in this area in our laboratory. This interactive approach should further enrich our knowledge of apps for post-secondary students with ADHD.

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Appendix A

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