

ADHD and Knowledge Work: Exploring Strategies, Challenges and Opportunities for AI

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Abstract. While neurodiversity research in HCI has primarily focused on Autism Spectrum Disorder and children, other conditions (such as ADHD) and demographics remain underexplored. To address this gap, we conducted an online survey with 49 participants to investigate how individuals with ADHD manage their work. Findings reveal that while participants employ a range of strategies and tools, these still leave challenges around prioritisation, time estimation, and task switching. While AI-powered tools could be beneficial and some participants called for them, there was limited awareness and utilisation of them. However, those that did make use of AI tools found them very helpful in progressing with tasks. This study emphasises the need to raise awareness about existing tools for work management among individuals with ADHD. Co-designing inclusive tools and fostering support from managers and colleagues were also found to be crucial. Ultimately, we argue that we need to advance the discourse on inclusive productivity to account for the complex needs of neurodiverse individuals.

Keywords: neurodiversity, ADHD, productivity, knowledge workers.

1 Introduction

While the importance of creating diverse and inclusive workplaces is widely acknowledged, existing productivity strategies mainly cater to neurotypical individuals [1]. Limited research exists on how neurodiverse workers manage work [2, 3, 4], highlighting the need for further investigation.

Neurodiversity, including ADHD (Attention-Deficit Hyperactivity Disorder), affects around 15-20% of the global population. Individuals with ADHD often struggle with executive function tasks [5], such as focusing, time management, and task completion, impacting both their personal and professional lives. The prevalence of ADHD diagnoses is increasing [6], with a 400% rise in adults seeking diagnosis in the UK since 2020 and a 20% increase in those seeking medication between 2020 and 2022 [7].

Research in HCI looking at neurodiversity has focused primarily on children with autism and their development [8-13]. A similar trend was observed for ADHD, where the focus remained on children and young individuals [14-16] and their support networks [17,18]. However, academic research looking into supporting those with ADHD has focused primarily on children, leaving adults and those who receive a diagnosis later in life out of the conversation. There is currently a gap in the literature and a call for more work to be done to create a better understanding of how neurodiverse people manage their work and what tools they use.

Therefore, we conducted an exploratory qualitative study with 49 participants who completed an anonymous online questionnaire, looking into how knowledge workers with ADHD manage their work and the role that technology plays in that. Our findings show that the challenges mentioned by participants could be easily addressed by AI-powered tools. While on one side we found there is still scepticism around the benefits and practicalities of using AI for work, those who make use of it find it incredibly helpful. Our work has implications for rethinking inclusive tools and practices for work and advancing a more inclusive productivity discourse.

2 Related Work

‘Neurodiversity’ in HCI was introduced by Dalton [19] as a research agenda that differentiated neurodiversity from traditional disabilities for its ‘positive aspects’, and expands the current accessibility discourse, contributing to the development of diversity computing as an alternative to normative research frameworks [20,21]. Neurodiversity offers a different standpoint than the medical or social models of disability due to its origin and agenda as a heterogeneously-expanding movement [13].

Despite the growing number of HCI researchers with disabilities [22], as well as the increasing number of tech workers receiving a diagnosis in adult stages of life [3], there is limited work into the wellbeing of neurodiverse adults and how they structure and manage their daily lives. Adult ADHD has received even less attention within technology research [4], and certain demographics, such as ADHD in adult women, received even less so [23,24]. It has been argued that this is because HCI research tends to either mitigate the disability markers [13,25] or recognize disability as a category of identity [26], rather than meaningfully engage with the politics of disability and explore neurodiverse subjectivity as a different standpoint that could benefit technology research as a whole.

Despite the plethora of research on computer-supported collaborative work and digital tools to support individuals’ productivity, what we know about neurodiversity in the work context is limited and fragmented in regards to technology [2,3,27-35]. Furthermore, the often co-occurring nature of the conditions like Autism Spectrum Disorder (ASD) and ADHD poses challenges in delineating the impact of a certain condition [3], calling for more research into understanding neurodiverse productivity for designing technologies that could potentially support individuals in the workplace.

Nonetheless, existing research into neurodiverse productivity outside HCI tackles productivity from a normative perspective. When ADHD is contemplated in an employment context, it is often viewed mainly in terms of the economic and societal burden that individuals with ADHD may create, rather than inquiring into their lived

experiences of productivity [36-38]. As our understanding of neurodiversity in the workplace improves, previously marginalised individuals within the workforce, such as female ADHD workers [23], have started receiving more attention, potentially contributing to these individuals' productivity and overall wellbeing. Yet, we need to be wary of not imposing normative understandings of productivity on neurodiverse workers and attributing value to their labour based on their compliance with these implicitly neurotypical expectations.

It is therefore important that we understand how individuals with ADHD understand and manage their productivity on their own terms using the existing technology made available to them in order to support them in their flourishing in the workplace. A neurodiverse framing of productivity is likely to benefit all of us as some argued for accessibility [2,3,33,39], considering how the expectations of productivity in the workplace are often imposed on the individuals and likely to make assumptions about their executive functioning, regardless of their identities.

3 Method

We designed and deployed an anonymous online survey with 49 participants based in the UK, currently working (full-time or part-time), who self-identify as knowledge workers and have ADHD. The study was developed using Qualtrics, with recruitment facilitated via Prolific and participants were remunerated for their time (\approx £9/ph). We received ethical approval from Northumbria University (ref: 4022) and all participants provided informed consent.

Open-ended and multiple-choice questions covered how people managed tasks, communications, meetings, their views around AI, their workplace set up, perceptions of what it means to be (un)productive, and experiences around disclosing their status at work. Data was analysed using thematic analysis [40]. In this paper we report on initial findings from task management and perspectives on AI tools for work.

3.1 Participant information

Our sample consists of 49 participants: 25 men, 22 women, and 2 non-binary. 50% of participants were aged between 35-44 years old, 14% were between 45-64, and 37% were aged between 18-34. Occupations included a range of knowledge work roles, including IT professionals, healthcare professionals, educators, researchers, and professional services staff. 42 were employed full-time, while 7 were part-time, of which 3 were self-employed.

Of our sample, 20 participants received a diagnosis of ADHD (14 of which within the last 4 years), while a further 12 were currently on a waiting list. The remaining 17 self-assessed having ADHD and when asked whether they had considered seeking a formal diagnosis, answers mentioned being put off by the long waiting lists (2-3 years). While five preferred not to say, 23 participants disclosed presenting other neurodiversities, naming ASD (n=12), Asperger's (n=3), dyspraxia (n=1), Tourette's (n=1) as other conditions. 65% did not disclose their status at work, with reasons being they did not have an official diagnosis or were concerned about judgement and repercussions: "*I don't want to be seen/treated differently*", and "*I feel concerned about potential stigma or discrimination in the workplace*".

4 Findings

4.1 Having (most of) the tools, yet still not getting things done

The range of daily tasks participants reported was varied and individual to each role, as expected. Despite this, almost every participant used some form of routine to manage the working day, generally including a combination of: to-do lists to be checked off, calendar events for appointments and tasks, and reminders. In addition to some paper based tools (e.g. post-its and scraps of paper), digital tools used included OneNote, Trello, Notion, Monday.com, Azure DevOps and todolist.com. Only one participant highlighted their lack of planning, which was coupled with a sense of anxiety: *“I just get on with it and hope I get it right and don’t forget anything”*.

The concept of "body doubling" in ADHD work management, involving the presence of another person, is frequently mentioned in online resources as a way to improve focus and reduce distractions, yet limited research exists on its effectiveness. Among our participants, 11 reported using body doubling, with 6 using digital tools (e.g., StudyTogether, Teams, Zoom), while 2 relied on their managers for support in staying on track during the day.

Challenges. Two consistent challenges reported by participants were being able to stay focused on a task, and the ability to effectively prioritise multiple tasks, as one summarised: *“staying motivated when it’s slow day, and slowing down when I get hyper and want to do everything”*. Many participants also complained about their intrinsic lack of organisation causing issues at work: *“I still manage to forget a lot of tasks”*. The impact of this on the individual is hugely detrimental. One participant described themselves as feeling ‘overwhelmed’ to the extent where they wanted to be *“curled in a corner and not have to face work”*. Another one described themselves as ‘slower’ than their colleagues and another indicated that the tools they used (paper notebook and Excel tabs) were not helpful for them as *“I use it inconsistently”*.

Opportunities. It is no surprise that given the issues reported, participants were keen to have better support around task prioritisation, task switching (*“if my laptop could buzz me or make a noise when I move from one task to the other”*), and time estimation. Given deficits in executive functioning, time management is one of the most challenging aspects of working life for an individual with ADHD and some mentioned having a Personal Assistant or even AI as potential solutions: *“a PA to tell me exactly what I need to be doing and when”*. However, besides the instrumental support, many also wished for more emotional support and understanding of ADHD from their employers and colleagues: *“Better instructions from management and an awareness of my needs. I like to have clear, concise instructions with written expectations including deadlines”*.

The lack of connectedness between the tools and resources was an issue: *“They aren’t always connected and don’t ‘follow me’ or integrate in the way I want or need.”* These challenges could be addressed through technology and automation, combining the strengths of many of the tools currently adopted by ADHD workers into one instinctual system, as participants suggested: *“A system that integrates reminders, schedules and regular tasks”*, and a *“more automated reminder system”*. However, some participants also noted that the issue is not necessarily with a lack of tools, but their own executive functioning: *“I feel all tools are there I just need to remember to*

use them” and “*I don't feel I lack resources, it's a lot more to do with willpower and focus*”, and finally “*I've bought planners and organising spreadsheets and set alarms but they don't mean things get done*”. This suggests that while an intelligent, integrated system to help with task management might be of support to individuals with ADHD, these need to be (re)designed to counteract an unintentional non-use.

4.2 Leveraging AI tools

Of our 49 participants, about half (n=23) had made use of AI-powered tools to help with work, while the other half had not (n=24) or was not sure (n=2). Those who did not make use of AI explained that they either did not even think about it (“*I just never thought of it until now*”), or they were concerned it might have too big of a learning curve (“*scared it would be too overwhelming*”, “*I am not comfortable with learning this tool yet*”), or more commonly they had not thought how it could benefit them (“*I have not seen the need for them. I was unaware of their benefits*”). Conversely, those who did make use of AI-tools for work used a range of tools, primarily to help with text enhancement activities (e.g. ChatGPT, Quillbot, Grammarly, autocompletion of sentences in emails, Reflect, Mem), automation (e.g. Zapier, Snaplogic), creative outputs (e.g. Dall-E, Midjourney, Adobe Firefly, Syntesia), and digital assistants (e.g. ChatGPT, Motion, Bixby).

Besides Grammarly, ChatGPT was the most common AI-powered tool used by 24 participants. When asked what they used it for, participants had three broad reasons: to help with writing tasks; to help with programming; and to generate and refine ideas. Writing emails was a particularly common task, with participants using prompts like “*Rewrite this email to be more concise*” or “*re-write this email...to make it seem less passive-aggressive*”. As one participant stated, “*ChatGPT has been an incredible tool to instantly concise or summarise down my communication to the essential elements.*”

Untapped benefits. Those who made use of AI tools were generally satisfied with it and mentioned how it has helped address some of the challenges we listed above. For example, one person stated “*I love AI tools, they help me immensely. They help me improve my work, get more done, help me get more out of my time and make me more efficient*”, and another one who had only started using ChatGPT three weeks prior found “*it really is like having an assistant*”.

It is no surprise that the unfamiliarity that many still have with AI, coupled with a reluctance to integrate a system that they are accustomed to presents an impediment to the widespread implementation of AI as a successful strategy for ADHD workers. Yet, the challenges that participants mentioned above suggest that automation, integration of tools and AI-powered assistants could help address some of the struggles around time management, task switching and prioritisation. We found that with managed support and a clearer outline of how AI could be used in a myriad of ways to assist them in their task management, it could remove many of the barriers that currently face ADHD individuals and free up time for other work.

5 Discussion and Conclusions

We have presented initial findings from a questionnaire with 49 knowledge workers on how they manage tasks, the challenges faced, the opportunities for designing more

inclusive workplaces and technologies. This work contributes to the need to grow our understanding of ADHD in adults within the neurodiverse discourse [4] and expands the current productivity rhetoric to one that needs to be more inclusive.

It is important to mention that while the authors of this paper do not necessarily identify as neurodivergent, they do bring their own intersectional experiences of privilege and exclusion. Moreover, two authors have secondary experiences of family members with neurodiversity (ASD and ADHD). We recognise that to truly reach an inclusive productivity discourse shift it is fundamental to include people with disabilities in the meaning-shaping capacity, be this as participants or researchers [13,25].

Our findings point to the need for a three-step multi-pronged approach to a more inclusive productivity discourse. Firstly, we call for co-designing inclusive productivity tools that account for *unintentional non-use* and help with integration. While the tools and strategies mentioned by participants are similar if not the same to those reported by neurotypical individuals, we found that these tools fail to account for their executive dysfunctions. For instance, the use of a digital calendar will be rendered redundant if key meetings and dates are not entered, lost instead in a fog of overwhelm and crushing workload.

Secondly, we emphasise the need for raising awareness about and further exploring the potential benefits of new AI tools, especially for individuals with ADHD. We saw a frustration that the plethora of tools used did not ‘speak’ to one another intuitively causing the user additional workload and time updating different apps and analogue systems concurrently. The use of AI, Chat GPT in particular, was highlighted as an underused resource by at least half of the participants. However, this should be coupled with digital literacy opportunities to minimise the burden of learning and managing a new productivity workflow.

Finally, we call for increasing understanding of the lived experience of ADHD in the workplace among line managers and colleagues. The complex social environment of a workplace presents many challenges to neurodiverse workers but particularly to those who have an ADHD diagnosis who are forced to conform to schedules which are often unachievable whilst often having to hide their lack of impulse control, inattention and hyperactivity from their colleagues [41]. Participants expressed a clear sense of anxiety surrounding workload, organisational issues and unsupportive management teams who lack better understanding of their needs. In fact, echoing prior work [3], most participants did not disclose their status at work. Yet, an enhanced appreciation of the ADHD worker as untapped potential to be realised, coupled with significant investment into the evolution of supportive tools is essential to integrate this under supported minority in our society.

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