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Efficacy of an occupational intervention for quality of work life in ADHD: A randomized controlled trial protocol

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ABSTRACT

Background: While psychosocial interventions for ADHD in children are well-established, there is a gap in addressing ADHD symptoms that persist into adulthood, particularly those impacting occupational functioning. Adults living with ADHD often face challenges in the workplace related to time management, regulating attention, task prioritization, and meeting deadlines.

Methods: This study will evaluate the efficacy of a workplace intervention designed to improve the quality of work life in adults living with possible ADHD. A single-blind randomized controlled trial will compare an 8-week virtual psychosocial intervention to an active control group, with quality of work life as the primary outcome. Secondary outcomes will include self-reported measures related to work such as job satisfaction, psychological needs and well-being, self-esteem, self-efficacy, cognitive functioning, self-compassion, and quality of work relationships. Outcomes will be assessed at baseline, post-intervention, and at 3, 6, 9, and 12-month follow-up. In parallel, an optional awareness raising video will engage workplace stakeholders to improve ADHD literacy, reduce stigma, and offer neuroinclusive management strategies. Intention-to-treat analyses will use linear mixed-effects models.

Discussion: A participatory research approach was used to co-design the intervention material with workplace managers, community representatives, service providers and adults with lived experience. The research team will disseminate findings in scientific journals, conferences, and by sharing bilingual intervention materials with service providers and adults living with ADHD. This study fills a gap in addressing ADHD in the workplace, with findings that will inform intervention practices and improve workplace inclusion.

Trial registration: This study was registered at ClinicalTrials.gov (NCT06774378) on January 17, 2025.

1. Introduction

1.1. ADHD challenges in adulthood

Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental condition in which the brain develops atypically [1]. Prevalence rates of adult ADHD are estimated at 3.1 %, with 65 % carrying a childhood diagnosis into adulthood [2]. Recent studies suggest that symptoms of ADHD (i.e., inattention, hyperactivity, impulsivity) frequently persist into adulthood even if they no longer meet

Abbreviations: ADHD, Attention-deficit/hyperactivity disorder; ASRS, Adult ADHD Self-Report Scale; CBT, Cognitive-behavioral therapy; CFWQ, Cognitive Function at Work Questionnaire; IPS, Individual Placement and Support; IPWBW, Index of Psychological Well-Being at Work; ISEW, Individual Self-Esteem as a Worker; MSQ-SF, Minnesota Satisfaction Questionnaire–Modified Short Form; PNSW-S, Psychological Need States at Work Scale; OSES-S, Occupational Self-Efficacy Scale–Short Version; QWL, Quality of work life; QWLQ, Quality of Work Life Questionnaire; RCT, Randomized controlled trial; SCS-S, Self-Compassion Scale–Short Form; TMX, Team-Member Exchange.

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diagnostic criteria, causing marked difficulties in several spheres of functioning, including work [3–5]. Individuals living with ADHD experience significant cognitive, psychological, and social impairments in the workplace, including difficulties with sustained attention, time management, organization, and emotional regulation, which often lead to a reduced ability to perform tasks effectively [6,7]. Consequently, they face a threefold higher risk of job loss and often report feeling unable to work to their full potential [4,8–10]. Beyond personal challenges, ADHD in adulthood imposes substantial socioeconomic burdens, including increased healthcare costs, reduced workplace productivity, and higher rates of unemployment, contributing to an economic strain on both individuals and society [11–13].

1.2. Quality of work life

Quality of work life (QWL), a key determinant of professional success and personal well-being, is particularly vulnerable in adults with ADHD due to their heightened sensitivity to workplace demands. Due to attention problems, adults living with ADHD may be easily distracted by external (e.g., noises, lights) or internal (e.g., thoughts) stimuli, which can interfere with work performance [14]. In contrast, other people report entering a cognitive state of hyperfocus on a specific task that can last several hours. This state of hyperfocus carries its own risks, as it may lead to work accidents or overlooking basic physiological needs [15]. Deficits in executive functions (e.g., organizing, planning, prioritizing) represent other significant barriers to QWL [16]. Difficulties with initiating, prioritizing, and completing tasks, as well as organizing one's thoughts, are common manifestations of ADHD symptoms at work [16]. Hyperactivity and impulsivity comes in different forms, and can present itself as either behavioral or internal restlessness, excessive and rapid talking, racing thoughts, and emotional dysregulation which can lead to interpersonal conflicts at work with colleagues and supervisors [17,18]. While workplace accommodations can be helpful in removing disability-related barriers, few adults living with ADHD request them out of fear of being discriminated against from self-disclosing a psychiatric diagnosis [19,20]. Limited access to proper support could further aggravate overall QWL of this subpopulation and jeopardize job tenure.

1.3. Occupational interventions

Although several occupational interventions exist for adults with ADHD, none specifically target work-related variables or QWL, leaving a significant gap in the literature [21]. Recent meta-analyses have reported encouraging results for psychosocial interventions addressing ADHD symptoms and overall functioning [21]. For instance, cognitive-behavioral therapy (CBT) and mindfulness meditation can improve ADHD symptoms and general functioning (i.e., social and daily activities) with moderate effect sizes [22,23]. Additionally, specialized coaching, cognitive remediation therapy, and neurofeedback have shown promising preliminary outcomes in alleviating cognitive deficits such as attention and executive function impairments [24–27]. However, interventions directly addressing employability, such as supported employment programs like Individual Placement and Support (IPS), have been predominantly studied in individuals with severe mental illnesses (e.g., psychotic disorders such as schizophrenia, bipolar disorders), rather than ADHD [28,29].

To address this critical gap, we developed a novel intervention specifically targeting QWL for adults living with possible ADHD. The present study aims to assess the efficacy of this new psychosocial group intervention to promote QWL of adults living with possible ADHD. The intervention material was developed through a participatory co-design approach in collaboration with local community organizations and adults with lived experience. In parallel, our team conducted a systematic review to identify relevant therapeutic targets for workers living with ADHD [30]. As a base, we used a similar intervention that our team had developed for job tenure in severe mental illness and modified it to address the specific needs of individuals with ADHD regarding their QWL [31]. Details on the experimental intervention are provided in the methods section.

In this article, we present the protocol for a randomized controlled trial (RCT). The study's main objectives are (1) to evaluate the efficacy of the intervention at improving QWL in adults living with possible ADHD (primary outcome) and (2) to assess its impact on secondary variables, namely job satisfaction, psychological needs, psychological well-being at work, self-esteem as a worker, sense of occupational self-efficacy, cognitive functioning at work, self-compassion, and quality of relationships with workplace members (secondary outcomes).

It is hypothesized that, compared to the control group, participants receiving the intervention will demonstrate a significantly higher level of improvement in QWL and secondary outcomes between pre- and post-intervention assessments. We also hypothesize that there will be no significant difference on each outcome between post-intervention and follow-up measures for the experimental group, indicating that the intervention benefits will be maintained at 3, 6, 9, and 12 months.

2. Methods

2.1. Study design

The RCT protocol was co-developed with our partner community organization following the SPIRIT 2022 guidelines (Suppl. 1) [32], approved by an institutional research ethics board, and was retrospectively registered on ClinicalTrials.gov (NCT06774378). Any protocol amendment will be communicated to relevant parties and updated on the same registry platform. The efficacy of the Minds@Work-QWL intervention will be evaluated in three cohorts, each consisting of an experimental and control condition. The intervention group will receive the Minds@Work-QWL intervention over eight weeks, led by two trained co-facilitators (i.e., members of the research team). The control group will be treated with minimal contact before gaining access to the training materials. Figs. 1 and 2 illustrate the study protocol and CONSORT flowchart, respectively.

2.2. Setting

Data collection and intervention sessions will be conducted online while sessions for the control group will be conducted by telephone, with recruitment limited to residents of Québec, Canada.

2.3. Participants

Two categories of participants will take part in this study: (1) adults living with possible ADHD and (2) workplace stakeholders. ADHD participants will have the option to voluntarily invite workplace stakeholders to independently watch an educational short video that demystifies ADHD and proposes neuroinclusive management strategies to enhance QWL. This portion of the protocol was added to optimize knowledge transfer and facilitate the implementation of newly learned strategies for participants with ADHD in their work environment.

2.3.1. Inclusion criteria

The inclusion criteria for adults living with possible ADHD will be the following: (a) be at least 18 years old, (b) be able to communicate in French, (c) have scored $\geq$4 on Part A of the Adult ADHD Self-Report Scale (ASRS) [33] corresponding to the clinical threshold established for this instrument, and (d) be employed and (e) express the wish to improve their QWL, as assessed through a direct yes/no screening question.

The inclusion criteria for workplace stakeholders will be the following: (a) be at least 18 years old, (b) be able to communicate in French, and (c) be invited by an adult living with ADHD who is part of the intervention group.

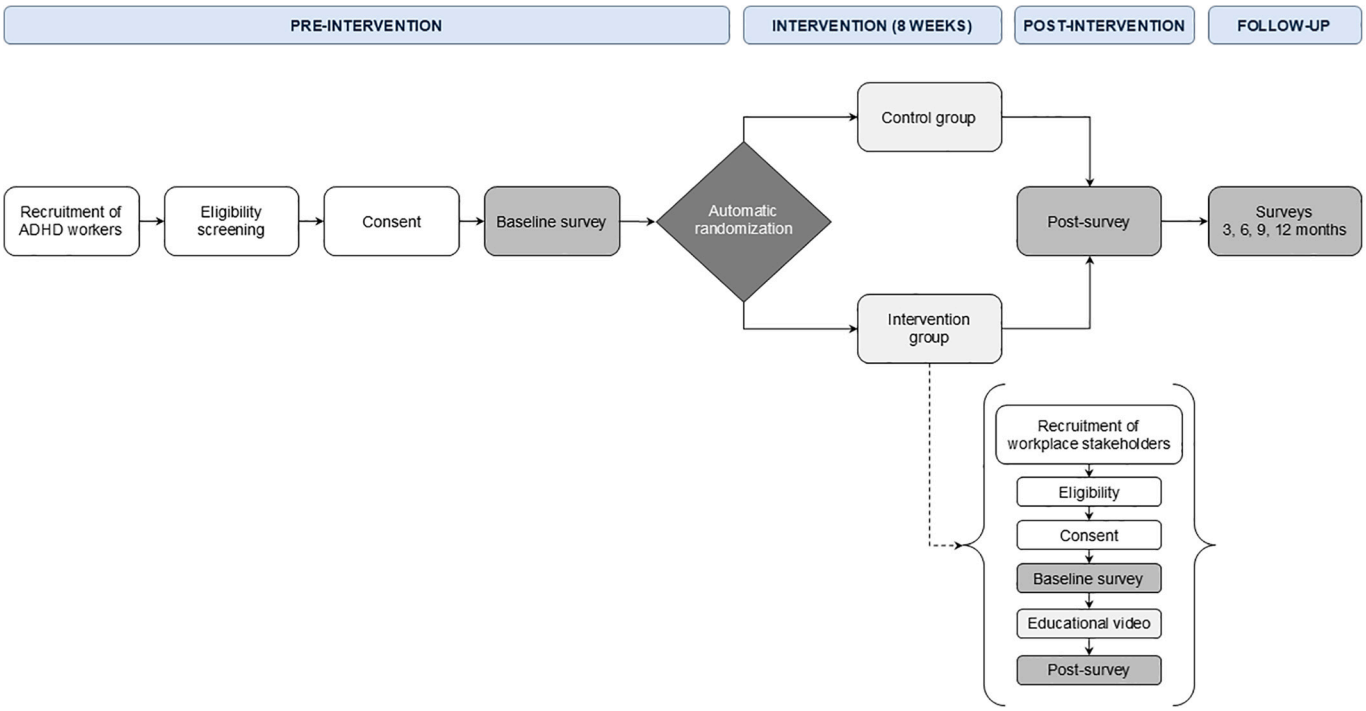

Fig. 1. Protocol flowchart of participants and workplace stakeholders in the Minds@Work-QWL randomized controlled trial.

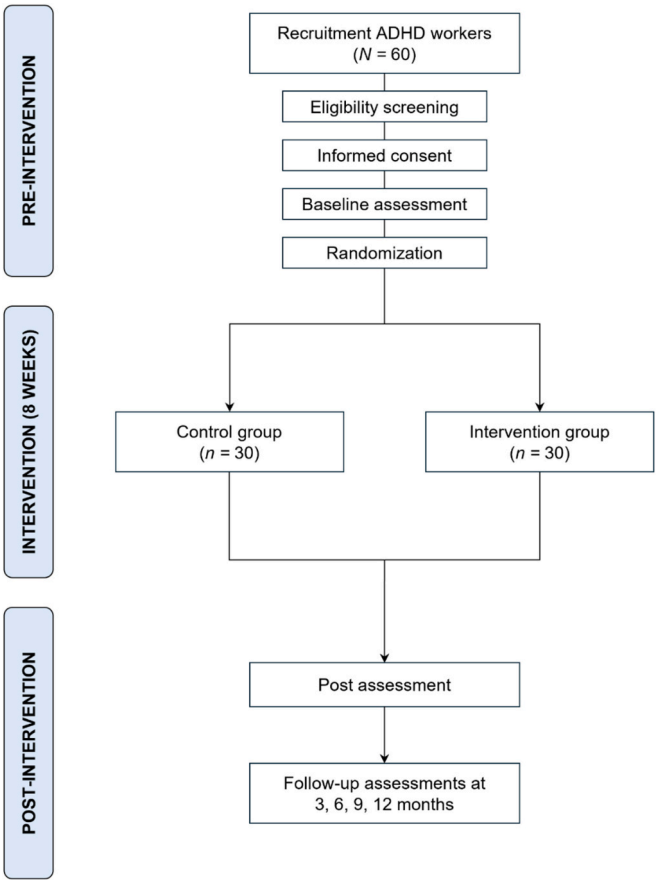

Fig. 2. CONSORT flowchart of participants through each stage of the Minds@Work-QWL randomized controlled trial.

2.3.2. Exclusion criteria

The only exclusion criterion for participants with ADHD will be concurrently receiving psychosocial services (e.g., psychotherapy, occupational therapy) aimed specifically at improving QWL.

2.4. Sample size

Our target sample size is to recruit 60 individuals based on a priori power analyses conducted using G*Power (Version 3.1.9.4) [34], grounded in effect sizes observed during the pilot study [35]. Anticipating moderate effect sizes, the estimated sample size ($N = 60$) ensures an 80 % power to detect these effects, with an alpha error rate set at 5 %. The target sample size also accounts for anticipated attrition, estimated at 25 %, and for sex and gender-based subgroup analyses [36]. Since it will not be mandatory for participants with ADHD to invite a workplace stakeholder, the maximum sample size anticipated for workplace stakeholders is estimated at 30, representing at best one workplace stakeholder per participant with possible ADHD.

2.5. Recruitment

Recruitment strategies will involve the distribution of flyers through affiliated centres, inclusion in community partners' newsletters, and promotion on social media platforms, such as Facebook, Twitter, and LinkedIn. Each flyer will feature a QR code directing prospective participants to LimeSurvey for study details and the research team's contact information will be provided. Interested individuals will complete an online screening survey on the same platform. Eligible individuals may then either contact the research team directly or provide their contact information (name, phone number, email). Ineligible individuals will be thanked for their interest and be notified of the reasons for their ineligibility.

Workplace stakeholders (e.g., colleagues, managers, or supervisors) will be recruited either through the same strategies used to recruit ADHD participants or upon invitation from ADHD participants. Participants randomized to the intervention group will have the optional opportunity to nominate a workplace stakeholder (e.g., colleague,

supervisor), but this will not be mandatory. To maintain participant confidentiality, the research team will send anonymous invitations to nominated workplace stakeholders using the contact information provided by ADHD participants. These invitations will contain a QR code linking to an online eligibility questionnaire. Eligible workplace stakeholders who provide informed consent will receive access to the short video and complete assessments before watching the video and at the post-intervention timepoint.

Recruitment began in August 2024, with anticipated completion in May 2025. The study's progression through each stage is depicted in Fig. 1.

2.6. Randomization and blinding

An automated randomization process will assign participants with possible ADHD to either the intervention group or the active control group using the block method in RRApp [37]. Developed by the Center for Biostatistics at the Icahn School of Medicine at Mount Sinai, RRApp is a publicly available resource for robust randomization. The block randomization parameters were configured with a total study size of 60 participants, divided into two treatment arms, with a block size of 10. This study will use single-blind assessments where participants will receive partial disclosure regarding condition assignment. To do this, adults living with possible ADHD will not know whether they were randomized to the intervention or control condition. In the consent form, the study will be presented as evaluating the effects of two types of interventions that could potentially contribute to improving QWL. They will be informed that they will be randomly assigned to one or the other.

2.7. Debriefing

During the consent process, participants will be informed that they will receive a debriefing letter via email after having completed post-intervention questionnaires, which will inform them of the condition to which they were assigned. The research team will remain available for participants who have questions following the debriefing.

2.8. Ethical considerations and consent procedure

Research Ethics Board approval was obtained prior to initiating the study from the Université du Québec à Montréal. Individuals interested in participating in our project will be required to electronically sign an informed consent form (see Suppl. 2). Participants will be informed of their right to withdraw from the study at any time without giving any reason and of the confidentiality of their data. Participants in the study will receive financial compensation for the time spent during assessment sessions.

2.9. Dissemination

Results will be disseminated through publications in peer-reviewed journals, presentations at relevant scientific, professional and community conferences, and shared through professional mental health associations. Authorship for research articles produced from this study will be documented using the Contributor Roles Taxonomy (CRediT) framework. Contributors who demonstrate involvement in at least one research development activity (conceptualization, methodology, formal analysis, or investigation) and one manuscript preparation activity (writing or reviewing) will be granted authorship.

2.10. Data management and monitoring

Data will be stored in an anonymized, password-protected manner on the institution's secured OneDrive. At the conclusion of the study, quality control will be performed to verify data anonymization and confirm the absence of errors.

A data safety and monitoring committee, comprising members from the research team and representatives from the PANDA Les Deux-Rives association (i.e., an administrative member, a specialized educator, a service user, and a company manager experienced in hiring individuals with ADHD), will meet at each stage of the study to monitor the study's progress.

2.11. Promoting participation adherence and study completion

Automated weekly reminders through the REDCap platform will support participant adherence to intervention sessions, which will be scheduled at convenient times outside regular working hours.

2.12. Minds@Work-QWL intervention protocol

The Minds@Work-QWL intervention program will span eight weeks, and intervention sessions will be offered remotely via the secured Zoom platform. During these one-hour sessions, participants will be brought together in groups alongside two co-facilitators, who will be members of the research team. The intervention will cover the following themes: motivation at work, workplace accommodations, problem solving, attention and memory, hyperactivity and impulsivity, interacting with others, managing ADHD medication, as well as a final review session on previous learnings and future professional goals. Details for each session is provided in Table 1.

Table 1
Description of the Minds@Work-QWL intervention program and related activities.

Module	Topic	Key activities
1. Motivation at work	Understanding and satisfying psychological needs in the workplace	• Identify work elements affecting psychological needs • Develop strategies to enhance need satisfaction
2. Workplace accommodations	Managing personal needs through work arrangements and relaxation techniques	• Identify helpful accommodations • Practice relaxation techniques • Apply techniques to specific work situations
3. Problem-solving	Learning and applying an iterative 6-step method for problem-solving	• Practice of the 6-step method in group using personal examples • Apply to specific work challenges
4. Attention and memory	Improving neurocognitive functioning through personalized strategies	• Learn time management techniques • Develop task prioritization strategies
5. Hyperactivity and impulsivity	Managing emotions and impulse control	• Emotional thermometer technique • Develop personalized strategies for emotional regulation and managing impulsivity
6. Workplace interactions	Enhancing communication and interpersonal skills	• Practice positive assertiveness • Practice receiving constructive feedback • Role-play problem-solving scenarios
7. ADHD medication	Understanding and optimizing medication use	• Learn about medication types and their effects • Develop strategies for medication management
8. Consolidation and future goals	Reviewing progress and setting goals	• Consolidate learned strategies • Set professional development goals

2.13. Workplace awareness and education (optional component)

Improving job retention for adults living with ADHD has proven challenging without the involvement of workplace stakeholders, such as supervisors, managers, and colleagues. Therefore, awareness-raising and educational approaches have been proposed as strategies to enhance the mental health literacy of workplace stakeholders and overcome barriers related to stigma and prejudice [38]. These training programs can help workplace stakeholders recognize mental health issues, provide appropriate support, and promote a non-stigmatizing attitude towards mental health in the workplace.

After the first session, adults living with possible ADHD will have the option to extend invitations to one or more of their workplace stakeholders (e.g., colleagues, managers) to watch a short educational video. The purpose of this short video is to demystify disabilities related to ADHD and propose neuroinclusive management strategies. Participation in this activity will be entirely optional for participants living with possible ADHD. Individuals who choose not to participate in this portion of the project, whether it be for confidentiality reasons or because they are unable to find a participant in their workplace, will still be eligible to continue their participation in the study. We recognize that involving a workplace stakeholder, particularly in smaller organizations, may carry a risk of disclosing the participant's ADHD status. To preserve confidentiality, stakeholder invitations will be sent directly by the research team without disclosing participant identities or any study-related personal information. This potential risk will be explicitly discussed during the consent process, and participants will be advised to weigh the benefits and drawbacks of involving an employer before opting in.

Workplace stakeholders who agree to participate will be invited to complete the Team-Member Exchange (TMX) [39] survey to assess the quality of work relationships both before and after viewing the brief capsule. By directly involving workplace stakeholders in the QWL process, the study aims to provide a practical means of increasing awareness about ADHD in the workplace and promoting neuroinclusive management. The video covers key topics such as what ADHD is, how it can impact work, and strategies for fostering more inclusive environments (e.g., accommodations, mentoring, fair evaluations, reducing tokenism, among others). The video highlights that employers share responsibility in creating equitable and supportive work environments, and that implementing inclusive practices benefits both employees and organizations.

2.14. Control group

The control group will use the minimal contact comparison approach [40,41] and will consist of weekly 15-min phone calls made individually by a member of the research team. During these calls, a pre-established script inquiring about psychological well-being at work will be followed and minimal support will be provided, without offering any active intervention. This aims to control for the frequency of therapeutic contacts. Ethical considerations are thoughtfully addressed in this study by ensuring that participants assigned to the control group will be offered the Minds@Work-QWL intervention once the study is completed. This approach guarantees that all participants have the opportunity to benefit from the intervention and mitigates concerns about withholding potentially beneficial treatments.

2.15. Data collection

Data collection will occur at multiple timepoints: baseline (prior to the start of the intervention), post-intervention (immediately after the eight-week program), and follow-up assessments at 3, 6, 9, and 12 months. Primary outcome measures will be collected at all six timepoints, whereas secondary outcomes will be assessed only at baseline and post-intervention. All data, including consent forms, will be collected via the REDCap online platform [42–44].

In this upcoming study, we will employ a comprehensive set of outcome measures to assess various dimensions of QWL. Part A of the ASRS will be used for eligibility screening, whereas part B will estimate severity of ADHD symptoms [33]. The ASRS has been validated in a French community sample, demonstrating adequate psychometric properties [45]. A sociodemographic questionnaire (24 items) will be administered at baseline to gather information, such as age, sex, gender, education, ethnicity, psychiatric diagnosis, medication, employment status, occupational history.

2.16. Outcome measures

2.16.1. Primary outcome measure

Quality of work life. The Quality of Work Life Questionnaire (40 items, QWLQ) [46] was selected as the primary outcome measure to assess overall work-related well-being due to its comprehensive assessment of work-related well-being across multiple dimensions and strong psychometric properties. The QWLQ evaluates five key domains: Work Tasks, Workplace Environment and Conditions, Self-Esteem as a Worker, Sense of Belonging to a Workgroup, and Relationships with Coworkers and Supervisors. Responses are self-rated on a 4-point Likert scale (1 = *completely disagree* to 5 = *completely agree*), with higher scores indicating greater perceived QWL. The instrument demonstrates excellent internal consistency (Cronbach's $\alpha = 0.70–0.93$), very good test-retest reliability ($r = 0.91$, $p < .001$), and robust validity indices (i.e., content validity, convergent validity). Having been tested across diverse occupational settings, the QWLQ has shown particular sensitivity in populations with psychiatric disabilities, making it especially suitable for this study [46].

2.16.2. Secondary outcome measures

Additionally, our study will count several secondary outcome measures to evaluate the therapeutic targets addressed in each module. These will include measures related to (i) psychological need satisfaction, (ii) job satisfaction, (iii) psychological well-being at work, (iv) self-esteem as a worker, (v) sense of occupational self-efficacy, (vi) self-compassion, (vii) cognitive functioning at work, (viii) the quality of relations with members of the workplace.

Psychological needs. Psychological Need States at Work Scale (37 items, PNSW-S) [47] is an English and French-validated questionnaire that has shown good psychometric qualities (Cronbach's $\alpha = 0.81–0.94$). It assesses the satisfaction, frustration, and unfulfillment of basic psychological needs in the workplace (i.e., autonomy, competence, and relatedness) as a measure of intrinsic motivation, based on self-determination theory [47,48].

Job satisfaction. The Minnesota Satisfaction Questionnaire–Modified Short Form (20 items, MSQ-SF) [49] is a self-report measure of employee job satisfaction. The MSQ-SF produces scores on Intrinsic Job Satisfaction, Extrinsic Job Satisfaction and General Satisfaction. The Intrinsic Job Satisfaction subscale captures attitudes towards the nature of tasks, while the Extrinsic Job Satisfaction subscale measures perceptions of working conditions and the overall work environment. Its robust psychometric properties have been extensively validated across various samples (Hoyt's coefficient = 0.77–0.91) [49].

Psychological well-being. The Index of Psychological Well-Being at Work (25 items, IPWBW) [50] measures several dimensions of psychological well-being at work in a self-reported manner, including Interpersonal Fit at Work, Thriving at Work, Feeling of Competency at Work, Desire for Involvement at Work, and Perceived Recognition at Work. Satisfactory psychometric qualities have also been well demonstrated (Cronbach's $\alpha = 0.83–0.96$) [50].

Self-esteem. The self-report Individual Self-Esteem as a Worker subscale (10 items, ISEW) [51] measures the self-esteem of employed persons through two dimensions: individual and social. The psychometric properties of this questionnaire have been demonstrated to be adequate (Cronbach's $\alpha = 0.75–0.85$) [51].

Self-efficacy. The Occupational Self-Efficacy Scale–Short Version (6 items, OSES-S) [52] survey is a self-report measure of workers' sense of self-efficacy, according to Bandura's self-efficacy theory [53]. Good psychometric qualities were reported for this questionnaire (Cronbach's $\alpha = 0.90$) [52].

Self-compassion. The Self-Compassion Scale–Short Form (12 items, SCS-S) [54] is a self-report measure of self-kindness along several dimensions, including elf-judgment and feelings of loneliness. The psychometric measures of this instrument are also satisfactory (Cronbach's $\alpha = 0.75$–0.81) and the survey has already been used in work settings [55].

Cognitive functioning. The Cognitive Function at Work Questionnaire (29 items, CFWQ) [56] is a self-report measure of cognitive difficulties encountered at work. It includes the following subdomains: Memory, Language, Executive Function, Speed of Processing, Cognitive Control, and Name Memory. This instrument also has good psychometric qualities (Cronbach's $\alpha = 0.87$) [56].

Quality of work relationships. The Team-Member Exchange (9 items, TMX) [39] survey will be used to measure the quality of the professional relationship between adults living with possible ADHD and the identified workplace stakeholder. Both have shown adequate psychometric properties. Participants assigned to the intervention condition and who did not to invite anyone from their respective workplace will still be invited to complete this survey.

A follow-up survey will be administered at 3, 6, 9, and 12 months after the end of the experimental and control conditions. The survey will assess the following variables: (a) job tenure (i.e., employment status in current or new position), (b) implementation of workplace accommodations (i.e., expressed needs, formal requests, and obtained accommodations), (c) use of strategies identified during the intervention sessions (experimental condition only), and (d) QWL using the 40-item QWLQ (primary outcome). Table 2 shows the schedule for data collection at each time point.

2.17. Statistical analysis

To assess the efficacy of the intervention, intention-to-treat analyses using the method of linear mixed-effects models will be employed to analyze data from primary and secondary outcomes between the intervention and control groups. The models will include fixed effects for group, time, and their interaction (Group × Time), with random effects for participant to account for individual variation. The statistical models used will make it possible to take into consideration the inter-individual differences existing before the intervention (random intercepts), as well as the variability of the speeds of change (random slopes). Age, sex, gender, highest education level completed, medication use, the presence of comorbid mental disorders, and baseline ASRS symptom severity scores (Part B), will be included as covariates in the model. These covariates will primarily serve as control variables to account for potential confounding effects on the main outcomes. Additionally, we will explore potential interaction effects between baseline ASRS severity scores and the primary treatment outcomes, as previous research suggests symptom severity may moderate treatment response. Other covariates will be assessed for interactions with main outcomes in exploratory analyses if theoretical justification or preliminary analyses suggest meaningful relationships. Subgroup analyses will be conducted to compare the level of efficacy between men and women.

All statistical analyses will be conducted using either IBM SPSS Statistics or R software, with mixed-effects models implemented using the lme4 package in R [57]. Significance will be determined at $p < .05$ (two-tailed). The normality assumption will be tested before conducting the statistical analyses and the data may be transformed, if necessary, although the method of linear mixed-effects models is relatively robust to deviation from the normal distribution [58]. Preliminary analyses will be conducted at the end of the first cohort to verify the absence of adverse effects; if no adverse effects are found, final analyses will follow the completion of data collection. Participant flow through the trial will be summarized in accordance with the Consolidated Standards of Reporting Trials (CONSORT) guidelines [59].

3. Discussion

Adults living with ADHD represent a substantial proportion of the Canadian workforce [12], yet little research has been done on developing psychosocial manualized programs to support them in the workplace. While numerous studies have highlighted the difficulties faced by individuals with ADHD in the workplace [60,61], there remains a significant gap in evidence-based guidelines for implementing efficacious interventions to support these adults. Therefore, we developed a novel intervention tailored to the specific needs of adults living with possible ADHD, aimed at improving their QWL. The goal of the Minds@Work-QWL intervention study is to address this gap by providing empirical data for the efficacy of occupational interventions in improving the QWL of adults living with possible ADHD.

3.1. Strengths and limitations

This study protocol outlines the rationale and methodology of a randomized controlled trial proposing to test the effects of a workplace intervention for adults living with possible ADHD. One of the key strengths of this study is its use of a RCT design, which is considered the gold standard for evaluating the efficacy of interventions. The RCT design allows for rigorous testing of the workplace intervention by minimizing bias and controlling for confounding variables, thereby providing high-quality evidence of the intervention's efficacy.

The study employs a single-blind design, where participants remain unaware of their group allocation. This design minimizes the risk of response bias by preventing participants' knowledge of their assigned group from influencing their perceptions or self-reported outcomes. While researchers are not blinded due to the logistical requirements of administering the intervention, this limitation is mitigated by maintaining standardized protocols and objective measures throughout the

Table 2
Assessment schedule.

Instrument	Domain	BL	PT	3 M	6 M	9 M	12 M
1. Adult ADHD Self-Report Scale	ADHD Symptoms	✓	✓				
2. Quality of Work Life Questionnaire	Quality of Work Life	✓	✓				
3. Psychological Need States at Work Scale	Psychological Needs	✓	✓				
4. Minnesota Satisfaction Questionnaire–Modified Short Form	Job Satisfaction	✓	✓				
5. Index of Psychological Well-Being at Work	Psychological Well-Being	✓	✓				
6. Individual Self-Esteem as a Worker subscale	Self-Esteem	✓	✓				
7. Occupational Self-Efficacy Scale–Short Version	Self-Efficacy	✓	✓				
8. Self-Compassion Scale–Short Form	Self-Compassion	✓	✓				
9. Cognitive Function at Work Questionnaire	Cognitive Functioning	✓	✓				
10. Team-Member Exchange	Quality of Work Relationships	✓	✓				
11. Job Tenure & Implementation of Workplace Accommodations	Job-Related Outcomes			✓	✓	✓	✓

study. Moreover, the single-blind approach is practical and appropriate for the study's intervention-focused design, as it ensures that the researchers can effectively monitor and implement the intervention while preserving the validity of the results. By adhering to rigorous methodological standards and minimizing bias where feasible, the study maintains its integrity and ensures that findings accurately reflect the intervention's impact.

Another strength is the adoption of a participatory approach, involving collaboration with the PANDA Les Deux-Rives association, a non-profit organization specializing in ADHD. This approach ensures that the intervention is co-designed with field experts and those with lived experience. The Minds@Work-QWL intervention manual was refined based on feedback from adults living with ADHD, psychosocial stakeholders and workplace managers with experience with ADHD employees, which enhances the relevance and applicability of the intervention. This co-design approach promotes the creation of a final product that is tailored to the identified needs of a community and can be more easily integrated into existing organizational structures.

Despite these strengths, the study has some limitations. The single-blind design, while practical, does not fully eliminate the risk of bias. Additionally, the study's reliance on self-reported measures of outcomes may be subject to response biases, as participants might alter their responses based on their expectations or social desirability. The generalizability of the findings may also be limited by the specific characteristics of the sample and the workplace environments involved. The results might not be directly applicable to all work settings or populations, and further research will be needed to confirm the intervention's effectiveness in diverse contexts.

More importantly, study inclusion was based on ADHD symptom severity, as assessed by Part A of the ASRS, rather than a formal clinical diagnosis. This approach was chosen to enhance accessibility and inclusion, particularly for adults who face structural barriers to obtaining a diagnosis, such as long wait times, cost, or limited access to qualified professionals. While this strategy allows the intervention to reach a broader group experiencing clinically relevant symptoms, it also has important limitations. The ASRS is a screening tool, not a diagnostic instrument, and may yield false positives or false negatives [62,63]. As such, it is possible that not all participants would meet full diagnostic criteria for ADHD following a comprehensive clinical assessment.

3.2. Future implementation

Once validated, the Minds@Work-QWL program is meant to be used either as a stand-alone intervention or integrated in supported employment initiatives, by employment specialists or psychosocial workers. By addressing these research gaps, our study has the potential to advance our understanding of the role of QWL in adults living with ADHD, and to inform the development of tailored occupational interventions to support this population. This study also contributes to the broader goal of promoting inclusive workplaces that support the well-being of all employees, regardless of their disability status.

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CRediT authorship contribution statement

Chloé Voyer: Writing – review & editing, Writing – original draft, Visualization, Project administration. **Marc Corbière:** Writing – review & editing, Funding acquisition, Conceptualization. **Patrizia Villotti:** Writing – review & editing, Funding acquisition, Conceptualization. **Alina N. Stamate:** Writing – review & editing, Funding acquisition, Conceptualization. **Geneviève Sauvé:** Writing – review & editing, Supervision, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization.

Consent for publication

Not applicable.

Ethics approval

The study protocol was approved by the Research Ethics Board at Université du Québec à Montréal, Montreal, QC Canada.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article. Deidentified study materials and data will be made available upon request after the completion of data collection.

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