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Cognitive Behavioral Therapy for Burnout and Governance in Executives with Learning Disabilities

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ABSTRACT: Executive burnout may hinder some leaders' ability to exercise reflective judgment; however, rigid work systems may increase cognitive challenges for some leaders with learning disabilities. This randomized wait-list study examined the impact of eight sessions of accessible work-based cognitive behavioral therapy (CBT) on the burnout levels and ethical governance of 120 executives with dyslexia and/or some form of dysgraphia or dyscalculia. Rating scales were administered prior to the intervention, immediately after the intervention, and at the three month follow-up. Intention-to-treat mixed-effects models indicated that levels of burnout were significantly lower post-CBT (post-intervention, $b = -0.40$, 95% CI $[-0.47, -0.33]$, $d = -1.16$; follow-up, $b = -0.30$, 95% CI $[-0.38, -0.23]$, $d = -0.88$). Scores of ethical leadership and vignette scores also improved. There was no support for ethical leadership mediation, and indirect pathways to vignettes with counter-burnout effects were supported. The burnout reduction effects were strengthened by organizational support. Accessible CBT may improve leaders'

well-being and governance behavior if paired with organizational supports, redesign of workloads, and the establishment of ethical governance infrastructures.

INTRODUCTION

Workplace Burnout as a Leadership and Governance Problem

Executives make decisions relating to people, budgets, strategy, and risk. This work is inherently ambiguous, demanding, and highly visible. This makes it more challenging when sustained demands are not balanced with recovery, autonomy, support, and useful information. Job Demands-Resources theory describes the work-related health impairment process as the greater the number of demands on the work, the more energy and self-regulation is lost, and the greater the strain. Burnout is characterized as exhaustion, mental distance, and the presence of cognitive and emotional impairments (Schaufeli et al., 2020). Although burnout is related to depression, anxiety, and other temporary conditions of fatigue and stress, it is not the same as these (Koutsimani et al., 2019).

Burnout can negatively impact a leader's work, including their ability to concentrate and control their emotions as well as impact their engagement and the ability to prioritize and work with their memory. Stress from work is related to a loss of cognitive control, however the exact relations are highly context dependent (Farahat et al., 2022). There is also a relationship between the mental health of a leader and their follower, however mostly descriptive evidence does not support a direct cause and effect relationship (Montano et al., 2017).

Why Burnout May Matter for Ethical Governance

This paper defines ethical governance as leading with concern for and awareness of stakeholders, and listening and being responsive to feedback within a framework of rules and policies. Although ethical leadership promotes trust and employee wellbeing, and improves performance and reduces workplace deviance, ethical climate studies reveal that policies and practices shape employee conduct (Mo & Shi, 2017; Newman et al., 2017; Saleem et al., 2024).

Judging ethically requires focus, and the ability to inhibit impulses and consider the perspective of others while tolerating the presence of information you may consider to be counterproductive. Within the realm of ethical leadership, distress may prompt the use of temporary solutions, avoidance of the more challenging stakeholder conversations, and performing only a cursory stakeholder analysis. While ethical leadership does not excuse distress, and reverse causality is possible, the effects of burnout may be due to the combination of work role conflict, concealment pressure, and lack of consistent standards and sufficient speak-up protections. Ethical leadership and corporate culture may be beneficially cumulative and may improve leader wellbeing (Huhtala et al., 2022). While the aim of the research was to look at the effects of changing leadership-related governance practices on the burnout-related changes, the research could not isolate the effects of changing leadership-related practices on governance within the context of organizational constraints.

Governance was evaluated with the Ethical Leadership Scale, assessments of ethical reasoning in response to predefined scenarios, and the Corporate Ethical Virtues Scale. The Ethical Leadership Scale measured governance at the level of observable behaviors. The Corporate Ethical Virtues Scale assessed reasoning related to stakeholder consideration, transparency, rules, voice, and the ethical climate as a context for corporate governance (Huhtala et al., 2018; Toro-Arias et al., 2022). Disparate approaches limited reliance on self-reporting.

Executive Leaders With Specific Learning Disabilities

Specific learning disabilities and intellectual disabilities are distinct. Dyslexia, dysgraphia, dyscalculia, or mixed specific learning disabilities were used as inclusion criteria to participate in this study. It was framed from a neurodiversity perspective as participation happened through the interaction of individual and contextual factors (e.g., demands of the particular task, available resources, and the socio-cultural context). It can be engaged through inclusive Flexible work systems and/or co-designed access options. Other approaches can foster participation without addressing the context such as addressing the work demands (Doyle, 2020; Dwyer, 2022).

Board-level meeting preparation entails the use of large volumes of paper, which can communicate low self-esteem, be perceived as a mistake, or impede performance due to the need for self-checking despite repeated task performance. The

preparation may include the use of barriers (e.g., long hours, masking), which impair recovery and performance. However, reviews of the workplace suggest a lack of knowledge on the part of managers regarding adjustment and flexible work systems (e.g., access options) and the possible need for workplace participation disclosure (Rollnik-Sadowska & Grabińska, 2024; Vargas-Salas et al., 2025; Weber et al., 2024).

Treatment must include accessibility. The potential use of CBT to address the barriers being discussed can also be used to address the demands of the workplace (Onuorah et al., 2025). The demands of the workplace require co-design of access options and flexible work systems.

THEORETICAL FRAMEWORK AND INTERVENTION RATIONALE

This study combines a version of cognitive-behavioral therapy with the Job Demands-Resources theory. The following are classified as demands: executive workload, ambiguity, gaps in information systems, role conflicts, and demands for disclosure. The following are classified as resources: autonomy, flexibility, concern for work-life balance, workplace justice, and supportive relationships (Bakker & de Vries, 2021). Perfectionism, exposure fears, coping behaviors, and strain are examples of cognitive-behavioral mechanisms. Arguably, some of these factors are under conditions of control. The results of work-focused CBT, trials, and reviews suggest that, despite a strong influence of workplace context and implementation, cognitive and behavioral work-related problem integration has the potential to reduce the severity of stress (Dalggaard et al., 2017a, 2017b; Daniels et al., 2021; Svärdman et al., 2022).

The governance bridge was addressed with the following interventions: values clarification, pausing to think, taking the perspective of others, behavioral experiments, and practice with role playing. These may reduce the automatic threat response and create time to consider stakeholders and the consequences of actions. This intervention was not meant to help leaders cope with a lack of resources and/or a retributive workplace culture. The lack of resources and workplace culture of threats and aggression was addressed as a context that constrains any potential individual gains.

Gap, Aim, Research Questions, and Hypotheses

There is little evidence on workplace cognitive behavioral therapy for executives with specific learning disabilities, and burnout studies rarely report independently assessed ethical-governance outcomes. This research focuses on the effects of an eight-session work-focused cognitive behavioral therapy on burnout and governance behavior, relative to a wait-list control. Based on the hypotheses, with respect to the wait-list control, diminished burnout was expected to be observed at the end of the intervention and at the three-month follow-up. The second hypothesis expected an increase in multi-rater ethical leadership and improved performance on the ethical leadership vignette. The third hypothesis expected the change to governance behavior to be explained by the reduction of maladaptive appraisals and burnout and the enhancement of recovery behavior. The final hypothesis expected the change to governance behavior to be explained by the greater fit of accommodations and the presence of greater organizational support and an ethical culture. When defining the exploratory framework, the limits of subgroup cells dictated the consideration of disability type, industry, gender, and seniority.

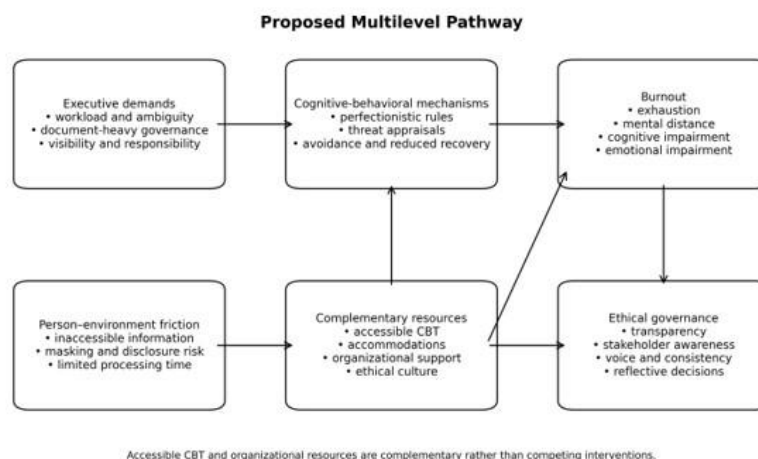


Figure 1. Multilevel Conceptual Framework

Note. Executive demands and person-environment friction influence cognitive-behavioral mechanisms and burnout. Accessible CBT and organizational accommodations are represented as complementary resources rather than competing explanations.

METHODS

Study Design and Reporting Boundaries

The study materials indicated a multisite, two-group randomized wait-list trial, with assessments described as baseline (T0), post-intervention (T1), and follow-up at three months (T2). The analytic dataset included 120 de-identified executives, equally assigned to Accessible CBT and Wait-list Control. Intention-to-treat analyses were conducted on participants who were randomized and had at least one repeated measure. Organization identifiers, recruitment and registration dates, Ethics number, therapists' identifiers, and records of the sequence generation were unprovided in the extract. The details were unprovided intentionally and will need to be aligned with the original records prior to submission. There was no use of employer, site, or personally identifying information.

Ethics, Accessibility, and Confidentiality

The informed consent protocol mandates accessibility and the right to withdraw. It provides for the monitoring of adverse events as well as the separation of research data from performance data. It also provides for the availability of research materials in digital and audio formats and in plain language and for the provision of additional processing time and support as required. The ratings used pseudonymous participant and rater codes, and neither the employers nor the raters were informed of the diagnostic and treatment status. The data set was provided in a de-identified format. There was no information on ethics and registration in the data set, and therefore they remain concealed.

Participants and Recruitment

Eligible participants were executives with formal authority over strategy, budgets, and governance or who managed a significant workforce. Included executives were diagnosed with a specific learning disability such as dyslexia, dysgraphia, or dyscalculia, among other mixed profiles, and/or evidenced heightened work-related burnout, and/or required workplace accommodations, and provided informed consent for participation in a total of eight sessions. Exclusion criteria included the presence of an acute condition that required more intensive intervention, engagement in concurrent structured burnout-related CBT, or inability to comply with study requirements even after receiving reasonable adjustments. Participants were recruited from professional, disability, leadership, and occupational health networks.

The study sample consisted of 120 executives (N=120) with a mean age of 46.75 years, who had about 8.80 years of work experience in the executive role, and who worked 56.90 hours per week on average. Fifty-seven participants were women, 54 were men, six were non-binary or other gender identities, and three chose not to disclose their gender identity. Sixty-five participants reported dyslexia, twenty-nine reported dysgraphia, nine reported dyscalculia, and seventeen reported mixed profiles; ninety-two participants had approved workplace adjustments of varying adequacy. The sample target of 120 matched the study protocol, however, the advance power calculation was not available and was not reconstructed retrospectively.

Sample Size and Analytic Precision

The primary estimand was the group-by-time interaction, and attrition was addressed through repeated measures modeling. No retrospective power was claimed as the original simulation and the smallest effect of interest were not available. Descriptive assessment was used for baseline comparability. The adequacy of accommodations and organizational support were included in the sensitivity models as they were relevant resources and differed between groups.

Data Management and Scoring

Scoring was done as outlined in the analytic workbook. For BATS, totals were calculated as item means with core dimensions kept separately. ELS scores were calculated as the average per rater and then averaged across the available raters for each executive and each time point. For vignette scores, averages of both forms were calculated, and the summary of the ethical-culture scores was assessed across the eight virtue dimensions. Missingness flag overrides were applied to the numeric fields to ensure no unobserved scores were created. Range checks were conducted and validated for all applicable scale values.

Analysis scripts, a data dictionary, and outputs that protect privacy and mitigate risk, will be submitted where permitted by the provided consent.

Allocation and Masking

The dataset documented a 1:1 allocation. The protocol stated that the allocation would be done by a computer through a concealed stratified method based on baseline burnout severity and would be further stratified as deemed appropriate. Participants and therapists were unblinded to the allotment. It was planned that scoring of the vignettes would be assessor-blinded and that the analysts would be expected to complete the models prior to the unblinding of the groups. As the extract did not state who was responsible for generating, recruiting, and releasing the allocations, the missing CONSORT information is for the authors to complete.

Accessible Work-Focused CBT

The intervention consisted of eight individual 75-minute sessions delivered as part as a work-focused CBT protocol with adaptations. CBT, occupational stress, disability inclusion, and psychotherapy coaching training were attended by the delivering clinicians. The needs of the participants were considered when using the protocol. The first four sessions taught concepts related to developing an understanding of the demand-resource gap, cognitive appraisal of perfectionism and threats, cognitive restructuring, and behavioral experiments using help seeking, disclosure and other forms of delegated support.

The last four sessions of this intervention taught concepts around boundary control, rehabilitation, the use of externally provided executive support, ethical pause and voice, and planning for the prevention of relapse. Participants were provided with pictorial and plain language materials, and were provided with the other forms of adjustments described in the original protocol. These adjustments included providing processing time (either verbal or prompt), adaptive dashboards and worksheets, reminder systems and audio summarization, and the use of assistive technology, task and time management. Homework for this intervention focused on minimal behavioral experiments. Adaptations were documented to indicate that the adjustments made to improve access were not considered a reduction in protocol fidelity.

Table 2. *Eight-Session Accessible Work-Focused CBT Intervention*

Session	Core module	CBT and governance target	Learning-disability adaptation
1	Accessible psychoeducation and formulation	Map demands, resources, burnout signs, learning profile, strengths, and governance pressure points.	Plain-language agenda; visual formulation; audio summary; participant-preferred terminology.
2	Demand-resource and trigger mapping	Identify workload peaks, inaccessible tasks, recovery deficits, role conflict, and decision-risk contexts.	Externalized timeline; pattern-based icons; chunked worksheets; assistive technology.
3	Perfectionism and threat appraisals	Examine all-or-nothing rules, fear of exposure, impostor beliefs, overpreparation, and avoidance.	Read-aloud option; fewer items per page; concrete examples from the participant's role.

Session	Core module	CBT and governance target	Learning-disability adaptation
4	Cognitive restructuring and behavioral experiments	Test predictions, generate balanced appraisals, and rehearse help-seeking or delegation.	Voice-note thought records; speech-to-text; extra processing time; modeled examples.
5	Recovery, boundaries, and behavioral activation	Schedule micro-recovery, task switching, sleep-supportive routines, and values-based activity.	Calendar integration; reminders; low-text action plan; realistic executive constraints.
6	Executive-function supports	Externalize working memory, prioritize decisions, structure board papers, and reduce cognitive switching.	Templates, checklists, accessible dashboards, meeting pre-reads, and processing pauses.
7	Ethical decision-making under stress	Use a pause-stakeholder-consequence-values check; practice voice, transparency, and escalation.	Scenario rehearsal; visual decision tree; alternative response modes; no moralizing language.
8	Relapse prevention and governance action plan	Identify early warning signs, coping responses, accommodation requests, and accountability supports.	One-page visual plan; audio copy; supporter or coach involvement only with consent.

Note. The manual preserved core CBT functions while allowing participant- selected access adaptations. Adaptations were recorded separately from protocol deviations.

Comparator

Participants on the wait-list were requested to continue regular workplace, occupational-health, or personal support activities. However, they were asked not to deliver structured burnout-related CBT during the active phase. The intervention could be offered after T2. Due to the absence of a longitudinal co-intervention record in the dataset, contamination could only be assessed indirectly.

Outcomes and Measures

The main outcome measure was the total score on the Burnout Assessment Tool (BAT) and the four dimensions of exhaustion, mental distance, cognitive and emotional impairment (Schaufeli et al., 2020). Respondents rated items on a 1–5 response scale, with higher scores reflecting higher burnout levels. The BAT has been shown to be a reliable and valid

measurement tool in occupational research (De Beer et al., 2022). Internal consistency of this measure in the current research was $\alpha = .79, .87$, and $.86$ for Time Point 0 (T0), Time Point 1 (T1), and Time Point 2 (T2), respectively.

Ethical leadership was assessed by averaging 10 direct report or peer items by executive and time point. $\alpha = .74, .75$, and $.79$ respectively, with a median of two raters and ICCs of $.58, .71$, and $.71$. Stakeholder identification, transparency, consistency in rule application, ethical voice, and judgment of consequences were assessed with two parallel vignettes (scored 0 to 20). Ethical culture was portrayed by the remaining eight dimensions of Corporate Ethical Virtues (Huhtala et al., 2018). Weekly process measures captured appraisals, avoidance, recovery, and accommodation use, while implementation records captured attendance, homework, alliance and credibility, adaptations, fidelity, and adverse-event flags.

Table 3. *Measures, Informants, Timing, and Analytic Roles*

Measure	Informant	Timing	Purpose	Observed reliability or agreement
Eligibility and demographics	Participant	Screening and T0	Eligibility, sample description, and prespecified covariates	Not applicable
Burnout Assessment Tool	Participant	T0, T1, T2	Primary outcome and four core dimensions	Cronbach's alpha = $.79, .87, .86$
Ethical Leadership Scale	Direct reports or peers	T0, T1, T2	Multi-source leader-behavior outcome	Alpha = $.74, .75, .79$; ICC = $.58, .71, .71$
Ethical decision vignettes	Participant; blinded scoring	T0, T1, T2	Performance-based governance outcome	Parallel forms; rubric-scored
Shortened Corporate Ethical Virtues	Participant and raters	T0, T1, T2	Ethical-culture contextual moderator	Scale score used in moderation
Maladaptive appraisals, avoidance, recovery	Participant	Weekly and T0-T2 summaries	Mechanism and implementation measures	Change scores analyzed
Attendance, fidelity, adaptations, adverse events	Therapist and research team	Continuous during treatment	Implementation and safety	480 session records

Note. T0 = baseline; T1 = post-intervention; T2 = 3 month follow-up; ICC = intraclass correlation.

Procedure and Retention

The order of the process was screening, consent (which could be withdrawn at any time), a baseline assessment, rater nomination, randomization, 0 to 8 weeks of treatment (or waitlist), a post-intervention assessment, and a follow-up assessment at 3 months. Participants could modify the time of their assessment, could choose to receive e-mail reminders, and had access to private links to their assessment. There was a single point of contact for each participant, which assisted retention without the need for employer notification. Data was available for 60 participants in the CBT group and 59 in the control group for T1, and for 52 and 54 participants, respectively, at T2. Mixed models were used for the data under the assumption that the data was missing at random and using all available data.

Statistical Analysis

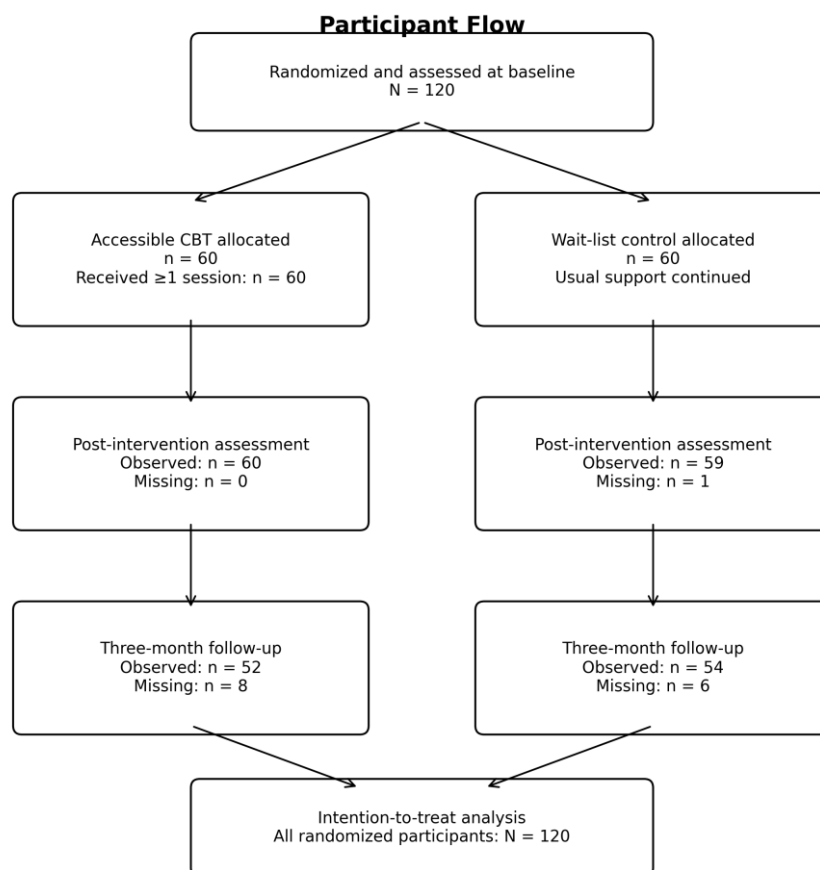
Maximum-likelihood linear mixed models had group, time, and group-by-time fixed effects with random intercepts for participants. Clustering by organization was not possible. We reported estimated marginal means, differential change, baseline pooled standardized effect sizes, exact p values with 95% confidence intervals, and parallel mediation with complete cases and 5,000 bootstrap samples at the participant level for T0-T1 changes to the mediators and T0-T2 changes to governance. T2

ANCOVA (Analysis of Covariance) models tested centered accommodation adequacy, organizational support, and ethical culture, and baseline outcomes were controlled for. Sensitivity analyses were performed on complete cases and per-protocol analyses, and small exploratory subgroups were not the focus.

For parallel mediation, complete cases with changes at T0, T1, and T2 for burnout, maladaptive appraisals, and recovery behavior were considered as mediators in T0 to T2 changes in ethical leadership or performance in the ethical leadership vignette. Indirect effects were estimated by 5,000 participant-level bootstrap samples and were described as statistical mediation. T2 ANCOVA models tested centered accommodation adequacy and organizational support and/or baseline ethical culture interactions with group. Reliably and rated agreement were summarized, as were attendance, adaptation and method use, fidelity, and adverse-event flags. Exploratory subgroup comparisons were not the focus due to small sample sizes.

RESULTS

Figure 2. Participant Flow From Randomization Through Follow-Up



Note. The analytic extract began at randomization. Screening totals and reasons for exclusion or attrition were not available and therefore were not inferred.

Participant Flow and Data Completeness

Baseline data has been provided for 120 randomized executives. At T1, there were data for 60 CBT participants and 59 control participants. At T2, there were data for 52 CBT participants and 54 control participants, resulting in 99.2% and 88.3% data completeness for each T1 and T2. Although the screening denominators and the reasons for missing data were not provided, Figure 2 starts at randomization. Complete-case estimates and available-case estimates were comparable.

Baseline Characteristics and Measurement Quality

Baseline outcomes were closely comparable: BAT means for both groups were 3.29. ELS means were 4.20 and 4.18. Vignette means were 13.61 and 13.38. Ethical culture means were 4.05 and 4.06. Demographics and work characteristics were also similar. Accommodation adequacy was higher in CBT ($M = 3.42$) than in the control ($M = 3.02$) but adjustment did not change estimates. The full characteristics are presented in Table 1. BAT and ELS reliability and ELS intraclass correlations supported the analysis.

Table 1. *Participant Characteristics and Baseline Comparability*

Characteristic	Accessible CBT (n = 60)	Wait-list control (n = 60)
Age, years, M (SD)	46.62 (7.59)	46.88 (6.93)
Executive tenure, years, M (SD)	8.38 (4.62)	9.23 (5.03)
Weekly work hours, M (SD)	57.53 (6.54)	56.27 (6.60)
Gender: woman, n (%)	33 (55.0)	24 (40.0)
Gender: man, n (%)	24 (40.0)	30 (50.0)
Gender: nonbinary/another identity, n (%)	1 (1.7)	5 (8.3)
Gender: prefer not to say, n (%)	2 (3.3)	1 (1.7)
Dyslexia, n (%)	34 (56.7)	31 (51.7)
Dysgraphia, n (%)	14 (23.3)	15 (25.0)
Dyscalculia, n (%)	5 (8.3)	4 (6.7)
Mixed specific learning disability, n (%)	7 (11.7)	10 (16.7)
Accommodation adequacy (1-5), M (SD)	3.42 (0.91)	3.02 (0.87)
Organizational support (1-5), M (SD)	3.18 (0.83)	3.28 (0.72)
BAT total at T0, M (SD)	3.29 (0.34)	3.29 (0.34)
Ethical leadership at T0, M (SD)	4.20 (0.33)	4.18 (0.36)
Vignette score at T0, M (SD)	13.61 (1.54)	13.38 (1.21)
Ethical culture at T0, M (SD)	4.05 (0.61)	4.06 (0.56)
Delivery: remote / hybrid / in-person, n	37 / 17 / 6	42 / 16 / 2

Note. BAT = Burnout Assessment Tool; T0 = baseline. Values are observed from the de-identified analytic dataset.

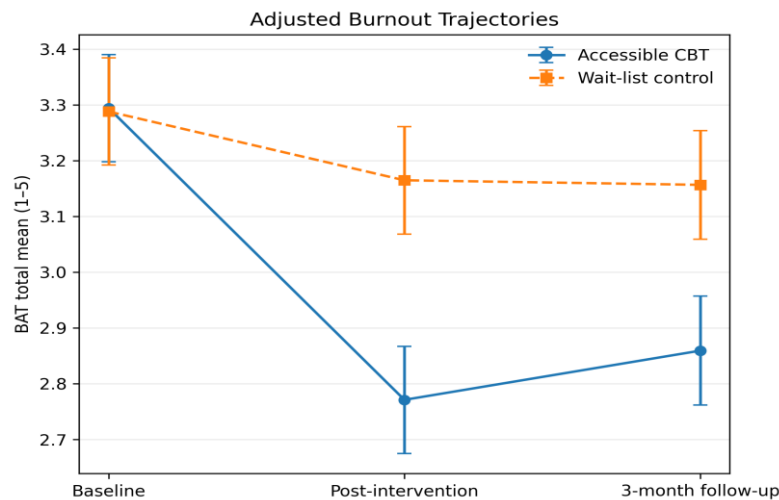
Primary Burnout Outcome

Burnout demonstrated a clear group-by-time interaction. At T1, adjusted mean BAT scores were 2.77 for the CBT group and 3.16 for the control group. The differential change was $b = -0.40$, 95% CI $[-0.47, -0.33]$, $p < .001$, $d = -1.16$. $p < .001$ indicates that at T2 the means were 2.86 and 3.16 for CBT and control, respectively, and the differential change was $b = -$

0.30, 95% CI [-0.38, -0.23], indicating an effect size of $d = -0.88$. The large treatment effect with a modest follow-up effect is illustrated in Figure 3.

CBT is preferable for all components of the BAT. For T1, differential changes ranged from -0.36 to -0.47 and for T2 these changes ranged from -0.24 to -0.36, all $p < .001$. The effect for cognitive impairment post intervention was $d = -1.20$ and for emotional impairment, $d = -0.58$, providing support for H1.

Figure 3. Adjusted Burnout Trajectories by Randomized Group



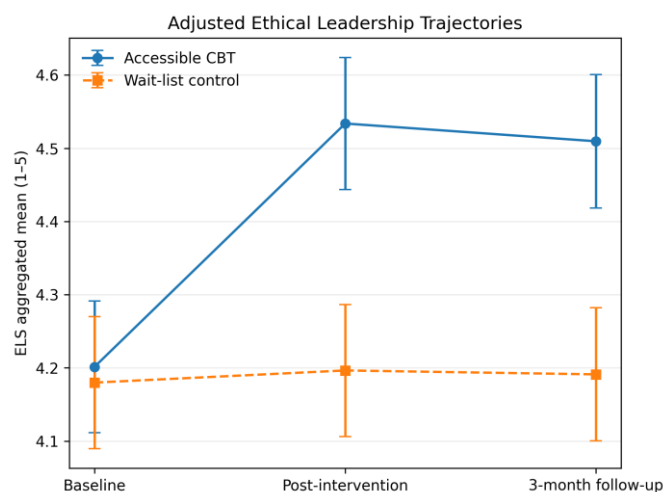
Note. Points represent model-adjusted means; error bars represent 95% confidence intervals. Higher BAT scores indicate greater burnout.

Ethical Governance Outcomes

Following CBT, multi-rater ethical leadership showed improvement. At T1, the differential change was $b = 0.32$, 95% CI [0.26, 0.37], $p < .001$, $d = 0.92$. At T2, the differential change was $b = 0.30$, 95% CI [0.24, 0.35], $p < .001$, $d = 0.86$. As shown in Figure 4, the positive change was mostly preserved.

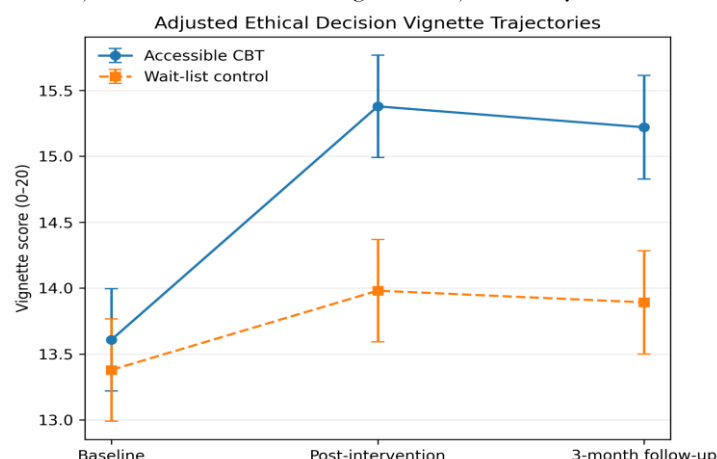
Vignette performance also favored CBT: At T1, the results were $b = 1.17$, 95% CI [0.93, 1.41], $p < .001$, $d = 0.84$, and at T2, $b = 1.10$, 95% CI [0.84, 1.35], $p < .001$, $d = 0.79$. Convergent rater and performance results provided partial support for H2 but indicate no organization-wide improvement for governance.

Figure 4. Adjusted Ethical Leadership Trajectories by Randomized Group



Note. Points represent model-adjusted aggregated direct-report or peer ratings with 95% confidence intervals. Higher scores indicate stronger ethical leadership.

Figure 5. Adjusted Ethical Decision Vignette Trajectories by Randomized Group



Note. The plotted points indicate model-adjusted blinded vignette scores along with their 95% confidence intervals. Scores are high when the reasoning for stakeholders, transparency, rule-consistency, voice, and consequence is found to be more complete.

Table 4. Primary and Secondary Mixed-Effects Model Estimates

Outcome	Contrast	CBT adjusted mean	Control adjusted mean	Group x time b (SE)	95% CI	p	Standardized d
BAT total	T1	2.771	3.165	-0.400 (0.038)	[-0.474, -0.326]	< .001	-1.16
BAT total	T2	2.859	3.156	-0.303 (0.039)	[-0.381, -0.226]	< .001	-0.88
Ethical leadership	T1	4.534	4.196	0.316 (0.028)	[0.262, 0.370]	< .001	0.92
Ethical leadership	T2	4.510	4.191	0.297 (0.029)	[0.241, 0.353]	< .001	0.86
Vignette score	T1	15.378	13.980	1.169 (0.125)	[0.925, 1.414]	< .001	0.84
Vignette score	T2	15.219	13.891	1.099 (0.130)	[0.844, 1.354]	< .001	0.79
Exhaustion	T1	-	-	-0.425	Model-based	< .001	-
Exhaustion	T2	-	-	-0.358	Model-based	< .001	-
Mental distance	T1	-	-	-0.362	Model-based	< .001	-

Outcome	Contrast	CBT adjusted mean	Control adjusted mean	Group x time b (SE)	95% CI	p	Standardized d
Mental distance	T2	-	-	-0.301	Model-based	< .001	-
Cognitive impairment	T1	-	-	-0.468	Model-based	< .001	-
Cognitive impairment	T2	-	-	-0.332	Model-based	< .001	-
Emotional impairment	T1	-	-	-0.362	Model-based	< .001	-
Emotional impairment	T2	-	-	-0.237	Model-based	< .001	-

Note. Models included fixed effects for randomized group, time, and group x time, with participant random intercepts. Organization clustering could not be estimated because organization identifiers were absent.

Mechanisms and Moderators

CBT resulted in less negative appraisals and avoidance behaviors and more constructive behaviors associated with recovery at Time 1 (all $p < .001$). The total indirect effect of CBT on burnout was non-significant. Positive effects on burnout reduction with respect to the vignettes were offset by negative effects on appraisals. The total indirect effect was non-significant. H3 was not confirmed as a combined effect.

Sufficient accommodation and ethical culture did not significantly affect the outcomes of burnout, ELS, or vignettes at Time 2. The effect of Organizational Support on burnout was significant, but governance outcomes were not significantly affected. H4 was confirmed, but only to a small extent.

CBT resulted in less negative appraisals and avoidance, and increased recovery behaviors and accommodation. These behaviors were not considered repeated confirmatory tests. Exploratory comparisons (e.g., disability, industry, gender, seniority) resulted in large confidence intervals and a small number of responses. These comparisons were archived and not interpreted. This will minimize the number of hypotheses and claims regarding the substantiation of the subgroups.

Table 5. Mechanism, Moderation, Fidelity, and Sensitivity Findings

Analysis	Outcome or indicator	Estimate	95% CI or descriptive value	Interpretation
Mechanism change	Maladaptive appraisals, T1	-0.559	$p < .001$	Greater reduction in CBT
Mechanism change	Maladaptive appraisals, T2	-0.487	$p < .001$	Retained reduction

Analysis	Outcome or indicator	Estimate	95% CI or descriptive value	Interpretation
Mechanism change	Avoidance, T1	-0.450	$p < .001$	Greater reduction in CBT
Mechanism change	Avoidance, T2	-0.404	$p < .001$	Retained reduction
Mechanism change	Recovery behavior, T1	0.463	$p < .001$	Greater increase in CBT
Mechanism change	Recovery behavior, T2	0.374	$p < .001$	Retained increase
Parallel mediation	ELS total indirect effect	0.058	[-0.129, 0.224]	Not supported
Parallel mediation	Vignette: BAT indirect effect	0.491	[0.164, 0.865]	Positive indirect path
Parallel mediation	Vignette: appraisal indirect effect	-0.417	[-0.768, -0.082]	Opposing indirect path
Moderation	Organizational support x CBT on BAT T2	-0.152 (SE 0.062)	$p = .016$	Support strengthened burnout reduction
Moderation	Accommodation adequacy interactions	Not significant	All outcomes	No measured moderation
Moderation	Ethical culture interactions	Not significant	All outcomes	No measured moderation
Fidelity	Sessions attended	$M = 7.48$	$SD = 0.70$; 55/60 attended ≥ 7	High exposure
Fidelity	Protocol fidelity	$M = 0.923$	$SD = 0.047$	High fidelity
Implementation	Most frequent adaptations	Plain language; visual formulation; extra processing time	80; 66; 61 uses	Access adaptations were actively used
Safety	Session-level adverse-event flags	9	Severity/relatedness unavailable	Requires reconciliation with safety records

Analysis	Outcome or indicator	Estimate	95% CI or descriptive value	Interpretation
Sensitivity	Complete-case BAT T2	-0.305	Close to ITT estimate	Conclusion unchanged
Sensitivity	Per-protocol ELS T2	0.301	Close to ITT estimate	Conclusion unchanged
Sensitivity	Per-protocol vignette T2	1.108	Close to ITT estimate	Conclusion unchanged

Note. ELS = Ethical Leadership Scale; BAT = Burnout Assessment Tool; ITT = intention to treat. Confirmatory and exploratory findings are reported separately in the text.

Fidelity, Safety, and Sensitivity

Participants of CBT attended an average of 7.48 sessions with 55 out of 60 attending at least 7 sessions. Average fidelity was .92. Plain language materials, visual formulation, processing time, materials, dashboard, chunking worksheets, and chunked worksheets were used frequently. Nine adverse event flags were reported across 480 sessions. However, severity and relatedness were not reported. Complete-case and per-protocol estimates were similar to the primary results and consequently, did not alter the conclusions.

DISCUSSION

Summary of Principal Findings

Work-centered CBT that is more widely available has been shown to reduce burnout considerably, even after three months. It has also led to improvements in ethical leadership and performance in vignettes. Changes in appraisals, avoidance, and recovery occurred in the expected direction, but mediation did not adequately account for ethical leadership and yielded opposite effects in vignettes. Retained reduction in burnout was positively influenced by organizational support, however, accommodation adequacy and ethical culture did not affect the outcome. High attendance and fidelity and variability in sensitivity estimates demonstrated the interventions feasibility.

Interpretation of Burnout Effects

The results concerning burnout line up with studies suggesting CBT is more effective when applied to specific tasks at work rather than just used for general symptom control (Dalgaard et al., 2017a, 2017b; Svärdman et al., 2022). Researchers should be cautious with the results of this study, as participants presented with high levels of burnout, the control group was not matched for attention, and personalized support may have affected participants' motivation. It is possible that attention from the therapists, their belief that the participants would be helped, their ability to adjust the schedule, and their ability to monitor the participant's progress, contributed to the results.

Executive demands work formulation and cognitive restructuring defended against the belief that, by making errors, one would be exposing or delegating one's weakness that requires coping to be tested by behavioral experiments, and the planning of recovery strategies targets cognitive and emotional exhaustion. The results of the study suggest that the implementation of tools to support executive functions and planning would be most effective when the cognitive impairment of the participants would be most pronounced. Due to the design of the study, the explanation is still only theoretical (Farahat et al., 2022).

The small rebound from T1 to T2 suggests that eight sessions would not be sufficient to address the remaining issues of being subjected continuously to late board papers, task-switching, long workdays, inaccessible dashboards, and negative social pressure affecting one's reputation. Durability may be enhanced with booster sessions or by changing the organization. CBT should never be applied to help participants endure negative systems. Systematic reviews of interventions show that worker well-being is contingent upon management and the design of work (Daniels et al., 2021; Fox et al., 2022).

Ethical Governance Mechanism

The multi-rater alignment of ethical leadership and vignette performance further substantiates the governance finding as regards to variation in methods and informants. Less exhaustion, more cohesive thoughts, and the addition of pauses during the decision-making process, clarification of values, and mental practice likely enhanced the degree of reflective action. However, these outcomes are more indicative of governance-related behavior than the audited lessening of misconduct, enhanced board oversight, and better stakeholder outcomes.

The mediation outcomes were largely inconclusive. Less exhaustion was the only cited component of the vignette-related effect to align with the appraisal, and none of the proposed mediators accounted for the improvement in ethical leadership system.

Burnout and moral failure are not synonymous. While more exhaustion speaks to less flexibility in behavior, ethical conduct is contingent upon values, motivations, a system of accountability, and a supportive organizational culture. Likewise, while burnout may be a precursor to ethical failures, the present findings show that the dual improvement of systems of governance and well-being may occur. It may be a mistake to assume that exhausted leaders are to be blamed. The present findings show that the dual improvement of systems of governance and well-being may occur. It may be a mistake to assume that exhausted leaders are to be blamed.

Learning-Disability and Neurodiversity Analysis

Directly intersecting with the use of accessibility, evidenced by high attendance and use of Flexibility Tools, was the active treatment of other components. The use of accessibility tools helped users overcome the reliance on a single mode of reading or writing. This is consistent with the person-environment models of disability (Doyle, 2020; Dwyer, 2022) and included the use of:

Plain text and/or language materials

visual formats and/or materials

spaced processing

Organizational and Governance Implications

It looks like individual gains are furthered by the provision of support from the organization. Sample support provision includes advanced agendas, available papers, decision making templates, flexible communication, pauses to process, privacy offerings, manageable workloads, and safe escalation pathways. These are likely consequences of support provision. However, since the trial assessed a singular intervention, and not the broader organizational redesign, we cannot be certain.

In regard to boards, the study's findings indicate that the wellbeing of executives should be part of risk and governance discussions as opposed to being relegated to matters of private health. For HR and OH, the intervention described integrates the care of burnout into disability support. The intervention describes the development of leadership from the viewpoint that ethical compliance is learned and demonstrated in the presence of operational constraints as opposed to being taught in the absence of constraints. The trial provided support for the need to provide ethical compliance. With the given constraints of the trial, the largest incremental organizational change benefits are unknown.

Strengths and Limitations

Strengths included random allocation, multiple follow-ups, a type I error control, an accessible manualized protocol, sensitivity analyses, implementation data, performance measures, and multi-rater and repeated measures. Limitations included a short follow-up, no active attention control, possible contamination, and unknown therapist effects. There were also omissions for screening, registration, random allocation, organization, and safety. There was volunteer bias, rater turnover, and a heterogeneous disability profile. Effects may also have been mediated and articulated reasoning may have been favored by the vignettes. Generalizability is strongest for executives disclosing and seeking treatment.

There was also volunteer bias, rater turnover, a lack of an active attention control, possible contamination, short follow-up, and unknown therapist effects. There was a lack of an active attention control and effects may also have been mediated. Volunteer bias, rater turnover, and heterogeneous learning disability profiles also existed. There may have been articulated

reasoning and mediation may have been underpowered to explain the effects. Although there was an acceptable intraclass correlation, ethical leadership ratings may have been biased due to a changing rater composition. Generalizability is strongest for executives disclosing a specific learning disability and participating in treatment related to burnout and is restricted for leaders with differing support needs, cultures, industries, and differing access to healthcare.

Future Research

Research extending follow-up duration and applying active controls should include multilevel mediation and economic evaluation while protecting organizational identities. Behavior outcome auditing will diversify the methodology employed. Hybrid and factorial designs will allow testing of the elements of the accessibility of CBT with organization redesign while allowing preservation of necessary changes. There is a strong need for cross cultural measurement and a focus on co-design with research, policy, practice and lived experience partners.

CONCLUSION

Burnout in executives raises concern for personal well-being and for the health of the organization. For leaders with learning disabilities, the pressure of having to make high-stakes decisions can be compounded by inaccessible information, the demand to disclose their disability, and pressure to overcompensate by working extra hours. This study focused on the use of an adapted, work-centered version of CBT (Cognitive Behavioral Therapy) to target workplace-related burnout without defining the learning disability as a deficit.

Cognitive Behavioral Therapy (CBT) had a direct effect on burnout and enhanced multi-rater ethical leadership and performance in blinded vignettes at the three month follow-up. There were changes to perceptions of burnout, avoidance behaviors, and an increase in recovery within the CBT group. However, effects were not uniformly strong and support from the organization was the primary factor in the retention of the burnout improvement. The accessibility of materials, attendance, and adaptation use indicated the feasibility of the study, although incomplete safety and outcome measures constrained the authors' interpretations.

Cognitive Behavioral Therapy (CBT) is not a remedy for chronic demand, inaccessible board materials, lack of accommodations, and a hostile speak-up culture. The focus of CBT is on helping employees reshape their perceptions of threats and recover, whereas the focus of the organization is to improve the workplace conditions. The study explored accessible Psychological Interventions, burnout, and governance behavior in an underserved population. A longer, hybrid, planned study with accessible CBT, organizational redesign, and Third Party Governance is needed to examine the effects of this intervention. Within the constraints of the study, accessible CBT showed promise within an ethical disability-inclusive executive support system.

To enhance internal validity, support for study registration, reduction of bias in the recruitment process, and a description of adverse events should be restored from primary samples to research publications before submission.

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