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Investigating the effectiveness of an internet-delivered acceptance and commitment therapy intervention for staff working with individuals with intellectual disabilities in reducing psychological distress and burnout

Stephanie Calderwood
Doctorate in Clinical Psychology
The University of Edinburgh
May 2023
DClinPsychol Declaration of Own Work

Name: Stephanie Calderwood

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Lay summary

The first part of this thesis is a review of studies of acceptance and commitment therapy (ACT) interventions delivered online in order to reduce burnout symptoms. Burnout is defined by many as a pattern of emotional, physical, or mental exhaustion due to longstanding work-related problems (e.g. high workloads, lack of resources, or lack of support). For the review, studies were included if they looked at ACT interventions, if those interventions were delivered in an online format (such as on the internet or through a smartphone), and if the studies examined whether the ACT intervention reduced burnout symptoms. Eight studies were found, and three of those studies had results that suggested internet-delivered ACT was effective in reducing burnout. The studies included different types of participants, including health and social care staff, teachers, medical students, and parents, and all used different formats to deliver ACT, with different levels of therapist input, making it hard to compare the results. Evidence is promising but more high quality studies are needed before we are able to determine whether internet-delivered ACT interventions really do help to reduce burnout.

The second part of this thesis was a research study looking at an internet-delivered ACT intervention for support staff and teachers who work with children and adults with intellectual disabilities. We wanted to see if the intervention helps participants feel less psychologically distressed (that is, less stressed, anxious or depressed) and less burnt out. ACT aims to help people live more meaningful lives in spite of difficulties by helping them find new ways to manage difficult thoughts and feelings. We therefore also measured whether participants would be more open to experiencing their thoughts and feelings, whether they would be more mindful, and whether they would be doing more things in line with what is important to them (their values). The intervention lasted four weeks and required participants to watch videos teaching them new skills, and to attend discussion groups with other participants to talk about what they were learning and how they were getting on practising these new skills. The results suggested that participants experienced less personal burnout (e.g. less fatigue
and exhaustion) and were more open to experiencing their thoughts and feelings. Participants did not seem to experience less work-related or client-related burnout, they did not seem to be less psychologically distressed, they did not seem to be more mindful, and they did not seem to be doing more valued actions than before the intervention. The study suggests that the internet-delivered ACT intervention was effective in reducing some forms of burnout, but more large-scale research would be needed in the future to confirm this.
Portfolio thesis abstract

Background: Staff working in intellectual disability services face a number of workplace stressors which place them at increased risk of burnout. Research suggests that the COVID-19 pandemic has exacerbated these stressors and negatively affected staff’s mental wellbeing. Acceptance and commitment therapy (ACT) has been found to be an effective in reducing professional burnout and there is growing interest in investigating the possible utility of delivering ACT in an online format.

Aims: Firstly, the presented systematic review aimed to explore the current evidence base to investigate whether internet-delivered ACT (iACT) interventions were effective in reducing burnout symptoms. Secondly, the empirical paper aimed to investigate whether an iACT intervention was effective in reducing psychological distress and burnout symptoms in direct care staff and teachers of individuals with intellectual disabilities.

Methods: For the systematic review, seven databases were searched to identity iACT interventions with a burnout outcome measure. A narrative synthesis was conducted on eight eligible studies, including extraction of study characteristics, and effect sizes were reported or calculated to aid the comparison of outcomes. For the empirical paper, a concurrent multiple-baseline design across subjects was implemented to investigate the change in burnout, psychological distress, and psychological flexibility scores. Data from nine participants were analysed using visual analysis and reliable change index and clinically significant change scores were calculated.

Results: The review indicated a significant degree of heterogeneity across the studies. Studied populations included health and social care staff, school faculty members, medical students, and parents of children with type-1 diabetes or functional disorders. iACT interventions were delivered in self-guided, semi-guided, and therapist-led formats through websites, video conferencing technology or a smartphone app. Three studies reported statistically significant effects in favour of iACT on burnout outcomes compared to a waitlist
control. One study reported comparable results between iACT and an internet-delivered cognitive behavioural therapy intervention. The empirical paper results found evidence of improvements in personal burnout, openness to experience, and overall psychological flexibility scores at the intervention phased compared to baseline.

**Conclusions:** The review suggests a high degree of heterogeneity in study characteristics, and limited evidence supporting iACT as an effective intervention for reducing burnout. Evidence is promising but further higher-quality research is needed in this area, considering potential moderating factors and pre-determined statistical analysis plans. The empirical paper adds preliminary evidence in favour of iACT interventions improving burnout and psychological flexibility in support staff and teachers working with individuals with intellectual disabilities. However, these findings need replication in larger-scaled studies.
Evaluating the effectiveness of internet-delivered acceptance and commitment therapy interventions for burnout: a systematic review

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Author Note: No known conflicts of interest to disclose.

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Abstract

Background: Acceptance and commitment therapy (ACT) has been found to be effective in reducing professional burnout and there is a growing interest in exploring the utility of internet-delivered ACT interventions (iACT) given its accessibility as a treatment option.

Aim: To explore the current evidence base to investigate whether iACT interventions were effective in reducing burnout symptoms.

Method: A systematic review was conducted with eight quantitative papers identified for inclusion. A narrative synthesis was conducted, including extraction of study characteristics, and effect sizes were reported or calculated to aid the comparison of outcomes.

Results: There was a significant degree of heterogeneity across the studies. Studied populations included health and social care staff, school faculty members, medical students, and parents of children with type-1 diabetes or functional disorders. iACT interventions were delivered in a self-guided or semi-guided format through websites, video conferencing technology or a smartphone app. Three studies reported statistically significant effects in favour of iACT on burnout outcomes compared to a waitlist control. One study reported comparable results between iACT and an internet-delivered cognitive behavioural therapy intervention.

Conclusions: There is currently limited evidence supporting iACT as an effective intervention for reducing burnout. Most studies had small sample sizes with high attrition rates leading to a lack of statistical power. Evidence is promising but further higher-quality research is needed in this area, considering potential moderating factors and pre-determined statistical analysis plans.

Keywords: Acceptance and commitment therapy; burnout; online therapy; systematic review.
Background

Acceptance and commitment therapy (ACT) is a third-wave cognitive-behavioural therapy that seeks to reduce distress by reducing the influence of painful thoughts and feelings while increasing a person’s ability for mindful, values-guided action to live a richer, more meaningful life (Harris, 2019). ACT has six core therapeutic processes: contacting the present moment, defusion, acceptance, self-as-context, values and committed action. These interconnected processes comprise a wider “hexaflex” of psychological flexibility (Hayes et al., 2012). ACT’s strong evidence base supports its effectiveness across various populations and conditions, including depression, anxiety, substance use, chronic pain, eating disorders, psychosis, stress/burnout, and as a transdiagnostic treatment (Gloster et al., 2020). Results indicate that ACT is superior to inactive control conditions, treatment as usual, and most active interventions, excluding cognitive behavioural therapy (CBT), which is equally effective (Gloster et al., 2020). Mediation analysis studies have also provided evidence in favour of the underlying psychological flexibility model of ACT (Hayes et al., 2006; Levin et al., 2012; Stockton et al., 2019), although evidence is mixed across each of the six different processes, with ‘acceptance’ being the most well studied and most evidenced (Stockton et al., 2019). These findings are not without limitations, with many of the studies investigating ACT found to be of low quality. Studies often consisted of small sample sizes, used inactive controls, did not control for therapist confounds, used non-blind ratings, did not use fidelity checks to confirm the accuracy to the model, and few controlled for the effects of other treatments (Öst et al., 2008). While more high-quality research is needed, the current evidence base does indicate that ACT is an effective treatment option across a range of populations and mental health difficulties (e.g. Bai et al., 2020; Garcia et al., 2021; Gloster et al., 2020; Herbert et al., 2022; Towey-Swift et al., 2022).

In recent years, there has been a growing interest in exploring the utility of delivering psychological interventions online especially following the COVID-19 pandemic (Andersson, 2018; Semonella et al., 2022). Traditional face-to-face therapies have several limitations that
can act as barriers to engagement, including high treatment costs, long wait lists and lack of availability, and inconvenience or transport difficulties (Andrade et al., 2014). Some of these barriers could be addressed through internet-delivered interventions. Evidence-based interventions could be disseminated to those in need, theoretically minimising structural barriers impacting attendance and the cost of delivery to service providers (Jess et al., 2019; Mitchell et al., 2021). Some of the drawbacks of online therapy, such as lack of therapeutic alliance and low adherence, can also be mitigated by including some form of therapist support (Twomey et al., 2014). Internet-delivered CBT (iCBT) has gathered significant evidence to indicate its benefits, including lower costs, quicker access, and greater convenience (Gratzer & Khalid-Khan, 2015). iCBT may even produce equivalent results to face-to-face CBT (Carlbring et al., 2017). However, this finding was based on 20 direct comparison studies. Most relied on self-referral for recruitment, which may indicate higher levels of help-seeking behaviour and may not represent other clinical populations.

The evidence for internet-delivered ACT (iACT) is small but increasing. Several systematic reviews have investigated the effectiveness of iACT, and initial findings found small effect sizes in favour of iACT compared to control conditions for anxiety, depression, and psychological flexibility (Brown et al., 2016; Thompson et al., 2021). iACT appears to produce slightly smaller effect sizes than face-to-face ACT, but these improvements were maintained at follow-up in both conditions (Thompson et al., 2021). It is worth noting that most studies included in these systematic reviews were conducted on general population samples, so the findings may not generalise to clinical populations who typically present with increased symptom severity. Much like research into face-to-face ACT, the quality of research studies was also variable and tended to consist of low sample sizes. Further research is necessary, but the current evidence suggests iACT may be a beneficial intervention format (Brown et al., 2016; Thompson et al., 2021).
Burnout

Burnout is commonly defined as a pattern of emotional exhaustion, depersonalisation (i.e. negative, cynical attitudes towards service users), and reduced personal accomplishment that can occur among individuals who work with others (Maslach et al., 1986; Maslach & Leiter, 2017). High-stress levels and burnout have been a longstanding concern in healthcare settings, which has only been exacerbated by the COVID-19 pandemic (Imo, 2017). In the UK, the number of healthcare staff reporting work-related stress rose from 28% in 2008 to 37% in 2016 (Johnson et al., 2018). A 2021 survey of social care staff in Scotland reported that the leading cause of staff sickness was stress (85%) and burnout (72%), with almost 60% of survey respondents stating that they felt ‘close to burnout’ (UNISON, 2022). High levels of burnout can lead to increased rates of staff turnover (Willard-Grace et al., 2019) along with decreases in perceived quality of care by both the patient and service providers and decreased patient safety as evidenced by both provider self-reports and data from adverse events reporting (Salyers et al., 2017). It is, therefore, essential to find interventions to reduce burnout and improve staff well-being.

Due to its frequency of use in burnout studies, Maslach’s definition became widely accepted within the field for many years. The International Classification of Diseases (ICD-11) uses this criterion to define burnout as an occupational phenomenon (WHO, 2019). However, newer research has begun to question the validity of this definition (Kristensen et al., 2005; Tavella et al., 2020). Some have questioned the three-factor model of burnout proposed by Maslach, with researchers arguing that it could be replaced by a one- or two-factor model (e.g., de Beer & Bianchi, 2019). Others have argued that depersonalisation should be considered a coping mechanism and reduced personal accomplishment a consequence of burnout rather than a core element (Kristensen et al., 2005). Other research has argued that burnout should be classified as a form of depression rather than a stand-alone concept due to the high degree of overlap between the two constructs (Bianchi et al., 2015). Alternative definitions have been suggested, such as burnout being conceptualised as a pattern of
exhaustion (either emotional, physical, or cognitive) due to prolonged work-related problems (Guseva-Canu et al., 2021).

A growing research base is investigating the effectiveness of using ACT as an intervention for professional burnout (Towey-Swift et al., 2022). Common predictors of workplace burnout include working long hours, isolation from colleagues, low job satisfaction, role ambiguity, perceived work overload and poor work-life balance (Finkelstein et al., 2018; Kamal et al., 2020; Kalliath & Morris, 2002; Zhou et al., 2020). Traditional solution-focused approaches (e.g. CBT) may not adequately address these organisational stressors and may increase burnout and stress (Ó Donnchadha, 2017; Noone & Hastings, 2010). ACT may be a more helpful approach since, rather than trying to challenge thinking patterns related to stressful situations, it aims to facilitate a different way of relating to our thoughts and emotions, which may alter our reaction to or perception of these situations (Hayes et al., 2013). Delivering psychological interventions to staff groups can be challenging, as staff often have high workloads and limited work time to participate (Asch et al., 2000; Hummers-Pradier et al., 2008). iACT may therefore offer a solution to some of these barriers since its delivery method requires less time commitment than typical face-to-face interventions.

**Study aims**

At present, there have been several systematic reviews and meta-analyses of the effectiveness of iACT interventions across a range of mental health outcomes (Brown et al., 2016; Han & Kim, 2022; Herbert et al., 2022; Thompson et al., 2021), but none have specifically focused on the effectiveness of iACT for reducing burnout. This review, therefore, aims to answer the following questions:

1) Are iACT interventions effective in reducing burnout in an adult population?

2) What are the characteristics of the published articles, including common intervention formats, participant populations and outcome measures?
Methods

This review was registered with PROSPERO (CRD42022379882) and is based upon the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Moher et al., 2009).

Search strategy

Systematic searches were conducted on the following databases between 23rd January 2023 and 13th March 2023: PsycINFO, MEDLINE, EMBASE, Education Resources Information Centre (ERIC), Applied Social Sciences Index and Abstracts (ASSIA), Sociological Abstracts, and Proquest Dissertations and Theses. Grey literature sources were also identified through citation chaining (both backward and forwards) of key references.

Search Terms

1) Terms related to ACT: Acceptance and commitment therap* OR acceptance-based
2) Terms related to online delivery: internet OR online OR web OR digital OR computer* OR smartphone* OR "mobile device*" OR "mobile app*" OR "ehealth"
3) Terms related to burnout: Burnout OR "burn-out" OR "burn out" OR stress OR exhaustion OR "compassion fatigue" OR "secondary traumatic stress" OR "work stress"

Search terms were chosen to be as comprehensive as possible to maximise the number of studies included within the search. Search terms for burnout were based on previous reviews of burnout interventions, such as Towey-Swift et al. (2021), who recommended the inclusion of terms like “compassion fatigue”, “work stress,” and “secondary traumatic stress” since these often include the concept of burnout in their definitions. Including grey literature in the review was seen as a valuable addition to traditional literature searches. It can help reduce publication bias, provide a broader perspective, increase the precision of results, and improve transparency (Higgins et al., 2022b).
Inclusion and exclusion criteria

Following the removal of duplicate search results, studies were screened for suitability using the following inclusion criteria:

Inclusion criteria

1) Population: study participants must be aged 18+.
2) Intervention: studies must implement an internet-delivered ACT intervention. All intervention elements must have been delivered in an online format.
3) Outcomes: Must include a validated measure of burnout (e.g. Maslach Burnout Inventory) as either a primary or secondary outcome.
4) Study design: any quantitative study design. This could include randomised controlled trials (RCT), group studies and single-case studies with experimental designs, with at least one participant who meets the inclusion and exclusion criteria.
5) Language: studies must be written in the English language.

Exclusion criteria

1) Population: studies that used only child or adolescent populations or did not give adequate detail to determine the age of participants.
2) Intervention: studies which did not use an ACT intervention, those which used ACT but not in an online format (e.g. ACT delivered face-to-face or via telephone), or those which only utilised one component of ACT (e.g. values or mindfulness only).
3) Outcomes: studies which do not include a validated measure of burnout.
4) Study design: Purely qualitative studies were excluded. Systematic reviews and meta-analyses were not included, but their reference lists were checked as part of forward chaining.
5) Language: studies written in languages other than English.

Given the current debate about the definition of burnout, any validated measure of burnout was eligible for inclusion in this review.
Any study which classified itself as an iACT intervention was eligible for inclusion, provided it contained more than one component of the ACT hexaflex. This criterion is similar to that implemented by other ACT systematics reviews (e.g. Thompson et al., 2021) and ensured that single-component interventions (e.g. values-based or mindfulness-based interventions) were not included.

**Screening and selection**

The Ovid interface extracted 511 articles from PsychINFO, MEDLINE and EMBASE, and the ProQuest interface extracted 65 articles from ERIC, ASSIA, Sociological Abstracts and ProQuest Dissertations and Theses. Article references and abstracts were then uploaded to COVIDENCE (www.covidence.org) for screening and selection using the inclusion and exclusion criteria, following the de-duplication of search results (see figure 1). If deemed suitable, the full-text article was uploaded to COVIDENCE and screened again by the lead researcher. A reason for exclusion was recorded when a study did not meet the inclusion criteria.

**Data extraction**

The following study features were extracted and coded using a data extraction table: 1) citation reference (author, year); 2) population and participant characteristics: setting/recruited from (e.g. clinical or general populations), mean age, gender, country, and sample size; 3) iACT characteristics, including the number of modules, treatment length, therapist input (e.g. guided or non-guided), number of ACT processes targeted, and follow-up length; 4) control group or alternative treatment comparator; and 5) outcome data, including burnout measure used, effect size, pre, post, and follow-up means and standard deviations, and pre-post correlations.

Intervention details were extracted to provide a detailed comparison of the content of interventions and monitoring of treatment fidelity to the ACT model. The decision to extract these details was driven by the study aims and was based on recommendations listed in the
Population characteristics were chosen to investigate whether iACT is more effective for specific populations. For example, previous research suggests the effects of ACT interventions are less effective in nonclinical samples where baseline measures of psychological outcomes are lower (e.g., Brinkborg et al., 2011; Thompson et al., 2021). Previous research also suggests that iACT interventions increased in effectiveness when some form of therapist guidance was introduced (e.g., Brown et al., 2016; Thompson et al., 2021), so the intervention format was therefore chosen as another variable of interest. Other details (e.g. attrition rate, sample size, etc.) were extracted for quality assessment.

Risk-of-bias assessment

The Revised Cochrane risk-of-bias tool for randomized trials (RoB 2; Sterne et al., 2019) and the single case design risk of bias tool (Reichow et al., 2018) were used to assess the risk of bias across different research designs. The RoB-2 looks at six domains: selection bias, performance bias, detection bias, attrition bias, reporting bias, and other biases. The RoB-2 tool is considered a comprehensive risk of bias assessment for randomised studies and is recommended by Cochrane. The single case design risk of bias tool (SCD RoB; Reichow et al., 2018) was adapted from the RoB and has previously been used effectively within other similar systematic reviews (Barton et al., 2015; Barton et al., 2017; Martinez et al., 2019). Each domain was assessed as low, high, or unclear risk. An overall quality assessment score was determined for each study following the Cochrane Collaboration’s guidelines (Higgins et al., 2022b). The Risk of Bias in Non-randomized Studies – of Interventions (ROBINS-I; Sterne et al., 2016) assessment tool was also added following the creation of the study’s review protocol. It was added following the inclusion of non-randomised studies in the review, where the pre-selected assessment tools were not the best suited to evaluate this type of design. Data was rated by the lead author (S.C.) with 37.5% of the papers (one from each rating tool) also rated by a second reviewer (C.P.). Interrater reliability was
calculated using Cohen’s kappa (κ) and discrepancies in ratings were resolved through discussion (see Appendix A).

Methods of synthesis

A quantitative data synthesis (i.e., meta-analysis) was not undertaken due to the heterogeneity in study factors, however available effect sizes were pooled where possible. Instead, this review presents a descriptive narrative synthesis of the studies. Studies were primarily grouped by intervention format (e.g., group, self-help, guided self-help) and population and summarised in a narrative form. Standardised mean differences were used to compare intervention effects. Results are reported in line with the Synthesis Without Meta-analysis (SWIM) guidelines (Campbell et al., 2020) to help ensure complete and transparent reporting.

Results

After deduplication, 571 studies were screened, 92 full-text articles were assessed for eligibility, and a final 8 studies were included in the synthesis (See figure 1).

Risk-of-bias assessment

Table 1 provides a summary of the risk-of-bias assessment results as rated and agreed by two reviewers (S.C and C.P.). Before discussion, raters independently agreed on 18 out of a total 22 criteria (82%), with a Cohen’s kappa indicating moderate interrater reliability (κ = 0.54) (Cohen, 1960).

The RoB-2 was used to evaluate five RCTs in the review (Axenova, 2022; Barrett & Stewart, 2020; Ditton et al., 2023; Paliliunas, 2015; Sairanen et al. 2019). All five studies had some concerns regarding the measurement of outcome (burnout) due to all participants being aware of the aims of the interventions, and outcome assessors were not blinded to participant group allocations. Four out of the five studies also had concerns regarding the selection of reported results due to a lack of statistical analysis plans (see table 1). Most
studies reported their data analysis in the journal article, but little evidence was available to determine whether these plans were created pre-intervention. Two studies were rated ‘high’ in bias overall (Axenova, 2022; Paliliunas, 2015). Both were unpublished master’s thesis studies. Both had concerns regarding missing data. Axenova (2022) did not report reasons for drop-out, and all five participants who dropped out in Paliliunas (2015) reported medium
to high levels of emotional exhaustion at baseline. These findings raise concerns regarding the accuracy of the reported outcomes and the possibility that results may be erroneously inflated in favour of ACT due to the missing data. Paliliunas (2015) also had serious concerns regarding their randomisation process. They allocated the first 10 participants via randomisation. However, participants who were recruited after this point were allocated to the ACT intervention, with a final participant being allocated to the waitlist control after a drop-out. This introduces a high risk of bias due to the potential presence of uncontrolled confounding variables (Sterne et al., 2022). Paliliunas (2015) also excluded several participants post-intervention due to low baseline scores for emotional exhaustion, again potentially biasing the reported intervention effects.

The review used the ROBINS-I to evaluate two non-randomised studies (Finucane et al., 2023; Szarko et al., 2022). Both studies were found to have a serious risk of bias due to concerns regarding confounding variables (Finucane et al., 2023; Szarko et al., 2022). The studies did not mention possible confounding variables, and their statistical analysis method did not adequately control for potential confounding variables. In the case of Finucane et al. (2023) this decision was likely made since the study was primarily a feasibility study, and the intervention’s effectiveness in reducing burnout was only a secondary aim that the study was underpowered to detect. Szarko et al. (2022) was determined to have an unclear risk of bias due to deviations from intended interventions. The intervention was delivered as a core part of a medical student curriculum, however, no data was reported on attendance rates, so whether participants completed the intervention as intended is unclear.

The SCD RoB was used to evaluate one multiple baseline design study (Diaz, 2022). This tool does not give an overall bias score but rates studies based on eight criteria. Diaz (2022) was rated to have a high risk of bias in three areas (blinding of participants, blinding of outcome assessors and data sampling). The outcome assessor was the lead researcher who was also responsible for delivering the ACT intervention. For data sampling, the study only gathered burnout outcome data at three timepoints for the participants recruited. This
meant the data could not be adequately analysed as the sample size was too low to provide statistically meaningful information (Forstmeier et al., 2017). Diaz (2022) was also rated to have an unclear risk of bias in two areas (sequence generation and participant selection). The study did not mention randomisation in allocation for baseline and intervention lengths. Still, it does report that the baseline phase was implemented until data showed a stable response. The study advertised for participants on several social media pages for teachers already familiar with ACT (e.g. the Facebook groups “Mindful Teachers” and “Mindful Behavior in ACTion.”) which introduces possible selection bias where the participants included in the study may have had pre-existing knowledge and familiarity with the intervention model, alongside the potential that they may hold positive attitudes towards ACT interventions which may influence their self-reporting on measures.

Common risk areas across all studies were the inability to blind participants to the intervention, lack of blinding of outcome assessors, lack of data on pre-intervention statistical analysis plans, and the management of missing outcome data.

**Study characteristics**

Summary details are outlined in tables 2 and 3.

**Participant Characteristics**

The studies included were published between 2015 and 2023. Three studies were conducted with various health and social care staff, two with teachers and school staff, two with medical students, and one with parents of children with type 1 diabetes or functional disabilities. The studies were conducted across seven countries: three in the USA, one in Australia and the UK, one in Canada, one in Scotland, one in Sweden, and one internationally across Ireland, the UK, the USA and the Philippines. Seven of the eight studies had a predominantly female sample, with the overall sample containing 79.0% female participants. The sample size, taken to be the number of participants who were
recruited and consented to take part, ranged from 3 to 281 participants, with a total of 614 participants included in this review.

**Study details**

Four out of the eight studies were randomised control trials (RCT), one was a non-randomised controlled trial, one was a signal-arm feasibility trial, one was a multiple baseline study, and one was a within-subjects longitudinal study. Three studies compared an iACT intervention to a waitlist control, one compared it to an iCBT intervention, one compared two versions of an iACT intervention (individualised and non-individualised) alongside a waitlist control, and three studies had no comparator group. The attrition rate for the studies included in this review ranged from 0% to 54%, with an overall attrition rate between all studies is 38.8% (238/614 participants). Two studies had an attrition rate of over 50% (Axenova, 2022; Ditton et al., 2023), and four had an attrition rate between 30-45% (Barret & Stewart, 2020; Paliliunas, 2015; Sairanen et al., 2019; Szarko et al., 2022), two had an attrition rate under 20% (Diaz, 2022; Finucane et al., 2023).

**Burnout measures**

Five of the eight studies used some form of the Maslach Burnout Inventory (MBI; Maslach et al., 1986; Maslach et al., 1996; Maslach & Jackson, 1981) to measure burnout. Two studies used the MBI Educator Survey (MBI-ES) (Diaz, 2022; Paliliunas, 2015), one used the MBI General Survey for Students (MBI-GS) (Ditton et al., 2023), one used the MBI Human Service Survey (MBI-HSS) (Axenova, 2022), and one did not specify which version of the MBI was used (Barrett & Stewart, 2020). Four studies reported their results by subscale, while one reported only the full MBI score total (with the personal accomplishment subscale reverse scored). One out of the eight studies used the Professional Quality of Life scale (ProQOL; Stamm, 2010), one used the Shirom-Melamed Burnout Questionnaire (SMBQ; Lundgren-Nilsson et al., 2012; Melamed et al., 1999; Shirom & Melamed, 2006), and one used a Modified Implicit Relational Assessment Procedure (MD-IRAP; Smith et al., 2022) to measure burnout.
**MBI:** The MBI contains 22 questions, comprising three subscales measuring emotional exhaustion, depersonalisation, and personal accomplishment. High scores indicate higher levels of each concept; therefore, personal accomplishment scores must be reverse scored to create an overall total MBI score (if required). There are now several versions of the MBI, which are identical except for the wording, which has been adjusted to suit the population of interest (e.g., “I don't really care what happens to some patients” vs “I don't really care what happens to some students”).

**ProQOL:** the ProQOL contains 30 items comprising three subscales measuring compassion satisfaction (pleasure derived from working well), burnout (work-related exhaustion, frustration, anger, and depression), and secondary traumatic stress (feelings of fear connected to work-related primary or secondary trauma). Higher scores indicate higher levels of each concept. It was decided to retain the ProQOL as a measure of burnout since, although it only measures burnout as a subscale, all three of its subscales are highly correlated with the MBI subscales (Hamid & Musa, 2017; Erkorkmaz et al., 2018) and the study in question separated out scores for each subscale so burnout could also be evaluated separately (Finucane et al., 2023).

**SMBQ:** the SMBQ contains 22 questions, comprising four subscales measuring emotional exhaustion and physical fatigue, listlessness, tension, and cognitive weariness. Higher scores indicate higher levels of each concept. The SMBQ and MBI have been found to be highly correlated (Shirom & Melamed, 2006).

**MD-IRAP:** the MD-IRAP measures immediate relational responding (i.e. implicit bias) toward burnout-themed stimuli. The stimuli were drawn from multiple versions of the MBI. They contained two lists of stimuli related to participants’ experience with medical training – a positive list (competent, caring, positive, and enthusiastic) and a negative list (callous, drained, overwhelmed, and stressed). Higher IRAP scores reflect more significant positive
and negative associations, respectively. Since the stimuli were based on the MBI, it was felt this measure was appropriate to include in the review.

**iACT characteristics**

Summary details for the iACT characteristics can be found in Table 3. Three of the eight studies could be classified as self-guided (i.e. they had no form of therapist input) (Axenova, 2022; Barrett & Stewart, 2020; Ditton et al., 2023). Four were semi-guided (two studies had therapist feedback, one had the therapist lead a certain number of online sessions, and one also had a pre-intervention phone interview between participants and personalised ‘coaches’) (Finucane et al.; 2023; Paliliunas; 2015; Sairanen et al., 2019; Szarko et al., 2022), and one was fully guided (therapist delivered the material via Zoom) (Diaz, 2022).

The number of modules ranged between two and eight (median = 4 modules), with a treatment length between two and ten weeks (median = 4 weeks). Some interventions let participants complete modules at their own pace and therefore gave treatment length in hours required rather than weeks (Paliliunas, 2015; Szarko et al., 2022). Where times were given, intervention length ranged from three to seven hours (median = 6 hours) (Axenova, 2022; Finucane et al., 2023; Paliliunas, 2015; Szarko et al., 2022). All but one study covered all six key ACT concepts, with the other covering five concepts (all but self-as-context) (Sairanen et al., 2019). Four out of eight studies had no follow-up period (Axenova, 2022; Barrett & Stewart, 2020; Ditton et al., 2023; Paliliunas, 2015), the other four studies had follow-up periods of five days (Diaz, 2022), one month (Finucane et al.; 2023), four months (Sairanen et al., 2019), and one year (Szarko et al., 2022).

**Effect sizes**

Effect sizes were calculated to provide a common metric for comparison. Table 4 reports the obtained effect sizes. Cohen’s d was calculated for each burnout measure based on the mean difference of groups from baseline to the last observation (post-intervention or follow-up). Calculations accounted for the variations in sample size between conditions where
necessary. As previously noted, meta-analysis was not considered appropriate due to the heterogeneity of the population characteristics, intervention formats, and range of comparators. Results are therefore summarised in a narrative form and pooled effect sizes were calculated from the available data.

Effectiveness of iACT

iACT vs waitlist

Four studies examined the effectiveness of iACT compared to a waitlist control. Three of these four studies reported significant effects in favour of ACT on at least one measure of burnout (Axenova, 2022; Paliliunas, 2015; Sairanen et al., 2019). These significant effects ranged from medium to large (d = 0.55 to 3.76). Two studies reported that ACT significantly reduced MBI emotional exhaustion scores (d = 0.55 and 3.76), one reported a reduction in MBI depersonalisation scores (d = 2.61), and one reported a decrease in burnout scored on the SMBQ (d = 1.05). Pooled effect sizes were not significant but highlighted small effects in favour of ACT for improvements in MBI emotional exhaustion and personal achievement scores, and a large effect size in favour of ACT for improvements in MBI depersonalisation scores.

iACT vs active controls

Two studies compared iACT to an active control. One study compared ACT to an iCBT intervention and found iACT to be equally effective in reducing burnout as iCBT (d = 0.45) (Barrett & Stewart, 2020). The other study compared two versions of iACT (individualised and non-individualised) but found no significant differences in burnout scores between the two intervention arms (Ditton et al., 2023).

iACT from baseline to post or follow-up

Four studies either compared the change in burnout scores from pre- to post-intervention or follow-up (Finucane et al., 2023; Szarko et al., 2022) or reported enough data for an effect size to be calculated (Barret & Stewart, 2020; Diaz, 2022). None of the four studies reported
a significant score change from pre- to post-intervention or follow-up. However, all calculations were likely underpowered due to small sample sizes. Effect sizes calculated for Diaz (2022) found a medium effect size for MBI emotional exhaustion (d = 0.60) in the expected direction. However, this effect size was calculated from a sample of only 3 participants. Finucane et al. (2023) reported a non-significant large effect size for change in secondary traumatic stress scores (d = 1.03) but minimal change for the burnout subscale scores (d = 0.15). Effect sizes were calculated for Szarko et al. (2022), calculated solely from the data from one cohort (class 4) that completed the intervention entirely online, indicating a medium increase in negative IRAP scores. This direction of change suggests increased identification with negative burnout-related terms (callous, drained, overwhelmed, and stressed).

**Intervention formats**

**Self-guided**

Three studies in this review contained iACT interventions in a self-guided format. Two interventions were hosted online and involved watching videos, completing experiential exercises, including mindfulness meditations, answering brief questions and (for one intervention) completing “homework” tasks (Axenova, 2022; Barrett & Stewart, 2020). One intervention was delivered via a smartphone app and involved psychoeducation and completing psychological flexibility skills activities related to the six key processes (Ditton et al., 2023).

All three studies used an RCT design. One study found that iACT had significantly reduced MBI emotional exhaustion scores post-intervention compared to the waitlist control (p = 0.04, d = 0.55) (Axenova, 2022). One study found iACT was similarly effective in reducing burnout scores as the iCBT intervention (Barrett & Stewart, 2020). The third study did not find any significant differences between either iACT condition and the waitlist control for any burnout outcomes; however, baseline levels of emotional exhaustion and cynicism were low in their
sample leading the authors to question whether the results may be explained by floor effects (Ditton et al., 2023). Previous research has found that ACT interventions may be less effective in nonclinical samples (Brinkborg et al., 2011; Thompson et al., 2021).

**Semi-guided**

Four studies in this review contained iACT interventions in a semi-guided format. Two studies had several modules as facilitated ‘live’ group sessions over video conferencing (Finucane et al., 2023; Szarko et al., 2022), and two had either the researcher or a ‘personal coach’ provide feedback on completed activities and answers to written questions (Paliiunas, 2015; Sairanen et al., 2019). One also provided responses to questions posted in a discussion forum (Paliiunas, 2015).

Two studies found that iACT had significantly reduced burnout scores post-intervention compared to a waitlist control, with large effect sizes \( (d \geq 0.80) \) (Paliiunas, 2015; Sairanen et al., 2019). One study was an RCT (Sairanen et al., 2019), one was a non-randomised control trial (Paliiunas, 2015), one was a single-arm feasibility trial, and one was a within-subjects longitudinal study (Szarko et al., 2022). For the longitudinal study, data from only one cohort was analysed as this was the only cohort to receive the intervention entirely online. The other two studies showed no significant change in burnout measures from pre- to post-intervention or follow-up (Finucane et al., 2023; Szarko et al., 2022). In one of these studies, the results were in the expected direction of change, indicating a decrease in secondary trauma \( (d = 1.03) \) but minimal change in burnout \( (d = 0.15) \) (Finucane et al., 2023). Still, the other study’s results for burnout were in the opposite direction than expected (Szarko et al., 2022). For Finucane et al. (2023), scores for burnout were high at baseline, indicating possible ceiling effects. Both studies were likely underpowered to detect significant effects, so larger, more robust RCTs may be able to detect the interventions’ true effects.

**Guided**
One study in this review contained iACT interventions in a fully guided format, delivering ACT Matrix training via Zoom (Diaz, 2022). It was a multiple-baseline design, but since burnout was not the primary outcome, the authors did not collect enough data points to be able to analyse the burnout outcomes this way. Burnout data was collected pre- and post-intervention and at five days follow-up from the three participants. The small sample size means that the reported data will be too underpowered to detect any intervention effects on burnout. However, when looking at the change in mean scores between the three participants, all three showed decreased emotional exhaustion scores (M change = -9.33, SD = 8.08, d = -0.60). Two showed reductions in depersonalisation scores (M change = -0.67, SD = 2.30, d = -0.14), and all three showed decreases (indicating deterioration) in personal accomplishment scores (M change = -1.0, SD = 3.46, d = -0.18) from pre-intervention to follow up.

Participant populations

**Health and social care staff**

Three studies in this review were conducted with health and social care staff, including intellectual and developmental disability support staff, doctors, nurses, healthcare assistants, allied health professionals, radiation therapists and social workers (Axenova, 2022; Barrett & Stewart, 2020; Finucane et al., 2023).

Two studies were self-directed interventions with an RCT design (Axenova, 2022; Barrett & Stewart, 2020). One was a semi-guided intervention with a single-arm feasibility trial design (Finucane et al., 2023). One study was an unpublished master’s thesis (Axenova, 2022).

Two studies reported results in support of the effectiveness of iACT. One compared iACT to a waitlist control and found evidence in favour of iACT for emotional exhaustion (d = 1.13) (Axenova, 2022), and the second compared it to CBT and found the two interventions were similarly effective in reducing burnout (Barrett & Stewart, 2020). The third study measured the change in burnout from pre-intervention to follow-up (one month) but found a minimal
change in burnout scores ($d = .15$). However, the authors did report low burnout scores at baseline and queried the possibility of floor effects (Finucane et al., 2023).

**School staff & teachers**

Two studies in this review were carried out with school staff in the USA, including Pre-Kindergarten (i.e. children under 5) and English as a second language (ESL) teachers (Diaz, 2022) and school faculty members, including general and special education teachers, a speech and language pathologist, a social worker, a certified nurse, and a paraprofessional (Paliliunas, 2015). One study was a guided intervention implementing a multiple baseline design (Diaz, 2022), and the other was a semi-guided intervention with a non-randomised control trial design (Paliliunas, 2015). Both studies were unpublished theses.

One study found significant large effects in favour of iACT compared to a waitlist control for MBI emotional exhaustion ($d = 3.76$, $p = .01$) and depersonalisation ($d = 2.61$, $p = .03$) scores (Paliliunas, 2015). The other study was a multiple baseline design and, as mentioned above, did not gather enough data to analyse the outcome data. When looking at the change in mean scores between the three participants, all three showed decreases in emotional exhaustion scores ($M$ change = -9.33, $SD = 8.08$), two showed reductions in depersonalisation scores ($M$ change = -.67, $SD = 2.30$) and all three showed decreases (indicating deterioration) in personal accomplishment scores ($M$ change = -1.0, $SD = 3.46$) from pre-intervention to follow up.

**Medical students**

Two studies in this review were conducted with medical students in Australia and the UK (Ditton et al., 2023) and the USA (Szarko et al., 2022). One was a self-guided intervention (Ditton et al., 2023), and the other was a semi-guided intervention (Szarko et al., 2022).

One study evaluated the effectiveness of an ACT training programme through an RCT (Ditton et al., 2023) but did not find any significant difference between iACT and a waitlist control for burnout scores. The other used a within-subject longitudinal design to evaluate
the effectiveness of an ‘ACT for Wellness’ curriculum course (Szarko et al., 2022). This study was not a fully internet-delivered ACT intervention, with 50% of its content in face-to-face lectures. However, one cohort (class 4) completed the intervention entirely online due to the COVID-19 pandemic’s restrictions, so only the data from this final cohort was considered for this review. For negative IRAP scores, there was a non-significant medium increase in scores (M change = 0.43, SD = 0.63, d = 0.69) and a non-significant minimal decrease in positive IRAP scores (M change = -0.07, SD = 0.41, d = -0.17) from pre- to post-intervention. The direction of change indicated a slightly increased identification with negative burnout-related terms (callous, drained, overwhelmed, and stressed) and a slight decrease in identification with positive burnout-related terms (competent, caring, positive, and enthusiastic), which does not support the hypothesis that the iACT intervention is effective in reducing burnout.

**Parents of children with type-1 diabetes or functional disabilities**

One study in this review was conducted with parents of children with either type-1 diabetes or a functional disability (Sairanen et al., 2019). This was a 10-week semi-guided online parenting course based on ACT principles. The participants of the study included eight couples. Participants completed modules over one or two weeks and were provided semi-structured feedback on their answers to written questions by personalised coaches. The study found a significant large effect in favour of iACT from pre-intervention to follow-up (four months) compared to the waitlist control (d = 1.05, p = .001).

**Discussion**

**Effectiveness of iACT interventions**

This review aimed to investigate the effectiveness of iACT interventions in reducing burnout. The evidence is mixed across the eight studies included in this review. Three found significant medium to large effects for change in burnout scores (MBI emotional exhaustion and depersonalisation) in favour of iACT compared to a waitlist condition (Axenova, 2022;
Paliliunas, 2015; Sairanen et al., 2019), and one study found iACT to be equally as effective as iCBT in reducing burnout scores (Barrett & Stewart, 2020). The remaining four studies did not find evidence of a significant improvement in burnout scores for iACT. Most studies also had low sample sizes and significant rates of attrition and were, therefore, likely underpowered to detect any significant differences in burnout scores.

A previous review found small effect sizes for the effectiveness of iACT on mental health outcomes (e.g. depression, anxiety, quality of life and psychological flexibility) (Thompson et al., 2021). Most of the studies included in this review were not adequately powered to detect small effect sizes; therefore, if iACT interventions do produce similar (i.e. small) effects on burnout, these studies would be unlikely to detect these changes. Some studies also reported low levels of burnout pre-intervention (Ditton et al., 2023; Finucane et al., 2023), which could indicate possible floor and ceiling effects. This would be in keeping with previous research on ACT interventions which found them to be less effective in nonclinical samples with lower levels of psychological symptoms (e.g. anxiety, depression, and stress) pre-intervention (Brinkborg et al., 2011; Thompson et al., 2021).

The quality of the included studies raises questions about the validity of the results. Five studies were at high risk of bias (Axenova, 2022; Diaz, 2020; Paliliunas, 2015; Finucane et al., 2023; Szarko et al., 2022) and three had some concerns regarding bias (Barrett & Stewart, 2020; Ditton et al., 2023; Sairanen et al. 2019). All studies had concerns regarding the blinding of outcome assessors, and most had concerns regarding missing data. The quality of the iACT research was similar to research on ACT interventions which also had problems with blinding of participants, low sample sizes and high attrition rates (e.g. Herbert et al., 2022; Towey-Swift et al., 2022; Thompson et al., 2021).

Two of the studies excluded participants in their data analysis for having low levels of baseline burnout or psychological inflexibility (Paliliunas, 2015; Szarko et al., 2022). Paliliunas (2015) stated this decision was made due to previous research indicating that
ACT interventions may be less effective in nonclinical samples. Research supports the notion that baseline burnout scores moderate the effectiveness of ACT interventions (Brinkborg et al., 2011; Thompson et al., 2021). However, this decision by Paliliunas (2015) still raises questions and concerns regarding the validity of the reported results, especially since the authors did not report a pre-intervention statistical analysis plan, so it is unclear whether the decision to eliminate participants was pre-determined or driven by the results post-intervention. If the decision were only reached during data analysis, it would suggest selective non-reporting of data to produce a more favourable result (Higgins et al., 2022a). Szarko et al. (2022) reported data for both the full sample and a smaller sample of participants with high baseline psychological inflexibility scores. However, their decision to analyse a smaller subset of the data appears driven by their lack of results in the full sample. Neither study conducted any mediation analysis to test the hypothesis that baseline scores were moderating the effectiveness of the intervention, which may have been a more robust and transparent approach to managing the data.

The current evidence base is limited, with few studies in this area and fewer still evaluating iACT’s effect on burnout as the primary outcome. Most studies in this area are small in sample size and of questionable quality. The available evidence, however, is encouraging and would benefit from the inclusion of further larger scaled, well controlled studies to further explore the impact of iACT interventions on burnout symptoms.

**The characteristics of iACT studies**

The second aim of this review was to investigate the study characteristics of the available research on iACT interventions, including common intervention formats, participant populations and outcome measures. Three studies investigated self-guided iACT interventions, two hosted online and one via a smartphone app (Axenova, 2022; Barrett & Stewart, 2020; Ditton et al., 2023); four studies investigated some form of semi-guided iACT intervention (Finucane et al., 2023; Paliliunas, 2015; Sairanen et al., 2019; Szarko et al.,
and one study investigated a fully guided iACT intervention delivered via Zoom (Diaz, 2022). As expected, there was significant heterogeneity across all study characteristics.

The most studied population was health and social care staff, with three of the eight studies containing this population (Axenova, 2022; Barrett & Stewart, 2020; Finucane et al., 2023), followed by two studies conducted with school faculty members, including teachers (Diaz, 2022; Paliliunas, 2015), two with medical students (Ditton et al., 2023; Szarko et al., 2022), and one with parents of children with type-1 diabetes or functional disabilities (Sairanen et al., 2019).

Unsurprisingly, the most utilised measure of burnout was the MBI, although the exact version varied across studies. Two studies used the MBI Educator Survey (MBI-ES) (Diaz, 2022; Paliliunas, 2015), one used the MBI General Survey for Students (MBI-GS) (Ditton et al., 2023), one used the MBI Human Service Survey (MBI-HSS) (Axenova, 2022), and one did not specify which version of the MBI was used, however, given the study population it was likely the original MBI-HSS (Barrett & Stewart, 2020).

Regarding the interventions, all but one covered the six main psychological flexibility models underpinning ACT (Sairanen et al., 2019). Despite this, the format of the interventions themselves was varied. Some were group formats that were only switched to online platforms due to the COVID-19 pandemic (Finucane et al., 2023; Szarko et al., 2022), while others were always intended to be delivered online (Axenova, 2022; Barrett & Stewart, 2020; Paliliunas, 2015; Sairanen et al., 2019).

Only one study explored the effectiveness of iACT using a smartphone app (Ditton et al., 2023). After working through an introductory model, the app allowed participants to practise psychological flexibility exercises ‘on demand’. Only 29% of the sample met Ditton et al.’s (2023) pre-determined adherence criteria (i.e., complete stage 1 introductory module plus at least 4 exercises in stage 2), which indicated low levels of engagement with the intervention. After accounting for outliers, the average number of exercises completed across the five-
week intervention period was between 3-5 across active ACT conditions. This averages to at most one exercise (lasting 3 to 8 minutes) per week, and it is perhaps unsurprising that no significant change in burnout scores was found. These findings indicate that future studies exploring the use of 'on demand' ACT interventions would benefit from considering the role of user engagement on change in outcomes scores and the design of interventions to aid user engagement.

**Review strengths**

A strength of this review was the inclusion of non-RCT study designs and the inclusion of grey literature, which helped reduce the risk of publication bias and provide a broader perspective on the topic. Given the heterogeneity of study designs, the use of multiple validated risk of bias tools also adds strength to this review as it was better able to adequately consider and classify the risk of each study based on its design rather than applying one standard across the board which may not have been appropriate.

**Review limitations**

One limitation of this study was the moderate level of interrater agreement ($\kappa = 0.54$) which may be reflective of the rater's level of experience since both were clinical psychology doctoral students with limited previous experience conducting systematic reviews and risk-of-bias assessments. Multiple raters were also not used during data extraction, which may increase this study's risk of bias and potential errors in study inclusion, classification, and quality assessment.

While this review attempted to include grey literature by searching a database of unpublished dissertations and theses, study authors were not contacted directly for more details or to identify any further unpublished data. As such, there will likely be some form of publication bias present in this review. Furthermore, this review's lack of non-English language studies could add to possible publication bias. The included studies were also
sampled from a predominantly North American and European sample, potentially reducing the generalisability of the findings to other non-Western samples.

Another limitation of this review comes from the heterogeneity of the included studies, making it challenging to identify specific intervention components that influence the interventions’ effectiveness. The heterogeneity also meant that a meta-analysis was not possible to determine the statistical significance of the findings. However, given the limited significant effects found across the studies, a meta-analysis was likely unnecessary at this stage.

One drawback of the RoB-2 tool is that it places a significant emphasis on blinding of participants, which is difficult to achieve in most psychological intervention studies due to the nature of the interventions. This means that it is highly unlikely for these types of studies ever to be reported as having a low risk of bias. The ROBINS-I contains factual and subjective judgement signalling questions as part of its process, limiting its reliability (Sterne et al., 2016). The SCD RoB tool has similar issues with subjective judgement, but it also has not been tested for its convergent validity due to its recency in creation (Reichow et al., 2018). Evidence of its accuracy, therefore, still needs to be developed through future research; however, it is still a valuable tool for evaluating single-case research designs and fills a gap in the current literature.

**Implications for future research**

The available evidence is promising, however still currently limited, regarding the effectiveness of iACT interventions in reducing burnout. Future research should focus on conducting larger-scaled studies, such as RCTs, which consider baseline burnout levels and user engagement as potential moderating factors. While the nature of iACT interventions makes it difficult to blind participants to the intervention, where possible, studies should try to blind outcome assessors to the intervention groups, for example, by having independent researchers analyse the data than those involved in the delivery of interventions.
Researchers should also account for the anticipated attrition rate and plan their statistical analysis accordingly. Attrition is a particularly important factor to consider when considering real-world applications of burnout interventions. There is evidence, both from this review and other previous ACT reviews (e.g. Towey-Swift et al., 2022; Thompson et al., 2021), to suggest that those who drop out from ACT interventions have higher baseline rates of burnout and ACT and iACT interventions are less effective for non-clinical samples. Therefore, those that need effective burnout interventions most may be absent from the current evidence base. This means the literature may not accurately reflect the true effectiveness of iACT interventions on burnout, which may have a knock-on effect on funding decisions regarding staff interventions.

The results of this review would highlight the need to remain cautious about which interventions can be recommended for an online delivery format. Online interventions have seen an increase following the COVID-19 pandemic, and it appears the expansion of digital therapy will continue due to its ease of use and acceptability by many patients (The Scottish Government, 2021). The current research evidence for iACT is insufficient to consider it a valid evidence-based treatment option; therefore, services considering their implementation should carefully consider all available options. If implementing an iACT intervention, gathering robust data on its effectiveness would help expand this evidence base; however, it should be made clear to patients that these are not currently evidence-based treatments, and their efficacy is still being evaluated.

**Conclusion**

This systematic review aimed to evaluate the effectiveness of iACT interventions in reducing burnout symptoms. It also aimed to identify the current study characteristics of the research in this area. This review identified eight studies across various participant populations and intervention delivery formats. Most studies measured burnout using the Maslach Burnout Inventory. Most studies were split between a self-guided and semi-guided delivery format.
Most compared iACT interventions to a waitlist control or analysed change in mean from pre-to post-intervention or follow-up. The present literature on iACT interventions shows promise for the effectiveness of iACT interventions in reducing burnout symptoms, however the field is still early with few available studies. The studies that do specifically investigate iACT interventions are of limited quality, with small sample sizes and high attrition rates. Further high-quality research is needed before iACT interventions can confidently be recommended as an effective treatment for burnout.

References


43/221
the UAE. *Journal of Mental Health*, 26(1), 28–35.  
https://doi.org/10.1080/09638237.2016.1244714


https://doi.org/10.1017/CBO9781107415324.004

https://doi.org/10.1016/j.brat.2021.103995


Table 1: Risk of bias summary for multiple assessment tools

<table>
<thead>
<tr>
<th>Study</th>
<th>Randomization process</th>
<th>Deviations from intended interventions</th>
<th>Missing outcome data</th>
<th>Measurement of the outcome</th>
<th>Selection of the reported result</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axenova (2022)</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Some concerns</td>
<td>Some concerns</td>
<td>High</td>
</tr>
<tr>
<td>Barrett &amp; Stewart (2020)</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Some concerns</td>
<td>Some concerns</td>
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<tr>
<td>Ditton et al. (2023)</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Some concerns</td>
<td>Low</td>
<td>Some concerns</td>
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<tr>
<td>Paliliunas (2015)</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Some concerns</td>
<td>Low</td>
<td>Some concerns</td>
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<tr>
<td>Sairanen et al. (2019)</td>
<td>Low</td>
<td>Low</td>
<td>Some concerns</td>
<td>Some concerns</td>
<td>Some concerns</td>
<td>Some concerns</td>
</tr>
</tbody>
</table>

The Risk Of Bias In Non-randomized Studies – of Interventions (ROBINS-I)

<table>
<thead>
<tr>
<th>Study</th>
<th>Bias due to confounding</th>
<th>Bias in selection of participants into the study</th>
<th>Bias in classification of interventions</th>
<th>Bias due to deviations from intended interventions</th>
<th>Bias due to missing data</th>
<th>Bias in measurement of outcomes</th>
<th>Bias in selection of the reported result</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finucane et al. (2023)</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Some concerns</td>
<td>Some concerns</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Szarko et al. (2022)</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Unclear</td>
<td>Some concerns</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

The single case design risk of bias tool (SCD RoB)

<table>
<thead>
<tr>
<th>Study</th>
<th>Sequence Generation</th>
<th>Participant Selection</th>
<th>Blinding of participants and personnel</th>
<th>Procedural Fidelity</th>
<th>Blinding Outcome Assessors</th>
<th>Data Sampling</th>
<th>Dependent Variable Reliability</th>
<th>Selective Outcome Reporting</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diaz (2022)</td>
<td>Unclear</td>
<td>Unclear</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>N/A</td>
</tr>
<tr>
<td>Study</td>
<td>Participants &amp; setting</td>
<td>Country</td>
<td>Mean age</td>
<td>Gender</td>
<td>Sample size</td>
<td>Design</td>
<td>Control Group</td>
<td>Burnout measure</td>
<td>Attrition rate</td>
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<tr>
<td>Axenova (2022) Thesis</td>
<td>Intellectual and developmental disability support staff</td>
<td>Canada</td>
<td>&lt;24: 1 (6.3%) 25-35: 7 (43.8%) 36-45: 2 (12.5%) 46-56: 1 (6.3%) 56-65: 4 (25%) 66+: 1 (6.3%)</td>
<td>75% female</td>
<td>N=25 Final: ACT: N=5 Waitlist: N=6</td>
<td>RCT</td>
<td>Waitlist</td>
<td>MBI-HSS&lt;sup&gt;a&lt;/sup&gt; (Primary outcome)</td>
<td>Overall: 19/35 (54.3%) ACT: 13 (37.1%) Waitlist: 6 (17.1%)</td>
</tr>
<tr>
<td>Barrett &amp; Stewart (2020)</td>
<td>Social and Healthcare staff (social work, nursing, radiation therapy &amp; medical doctor)</td>
<td>International: Ireland (81%) UK (7%) USA (10%) Philippines (2%)</td>
<td>M = 37.12 SD = 12.18 Range = 22–60</td>
<td>88% female</td>
<td>N=42 Final: ACT: N=22 CBT: N=20</td>
<td>RCT</td>
<td>CBT</td>
<td>MBI&lt;sup&gt;b&lt;/sup&gt; (Secondary outcome)</td>
<td>Overall: 16/42 (38.1%) ACT: 9 (24.4%) CBT: 7 (16.7%)</td>
</tr>
<tr>
<td>Diaz (2022) Thesis</td>
<td>Special education teachers</td>
<td>USA</td>
<td>M = 42.7 Range = 38-45</td>
<td>100% female</td>
<td>N=3</td>
<td>Multiple baseline</td>
<td>None</td>
<td>MBI-ES&lt;sup&gt;c&lt;/sup&gt; (Secondary measure)</td>
<td>Overall: 0/3 (0%)</td>
</tr>
<tr>
<td>Ditton et al. (2023)</td>
<td>Medical students (&lt;sup&gt;1&lt;/sup&gt;st, &lt;sup&gt;2&lt;/sup&gt;nd, &lt;sup&gt;4&lt;/sup&gt;th &amp; &lt;sup&gt;5&lt;/sup&gt;th year students of Joint Medical Program (JMP) at the University of Newcastle or the University of New England, Australia)</td>
<td>Australia &amp; UK</td>
<td>M = 24 Range = 18-51</td>
<td>61.5% female</td>
<td>Contacted: N=778 Consented: N=143 Allocated: N=108</td>
<td>RCT</td>
<td>Individualised vs non-individualised iACT Waitlist</td>
<td>MBI-7-GS&lt;sup&gt;d&lt;/sup&gt; (Exhaustion subscale was primary outcome)</td>
<td>Overall: 75/143 (52.4%) 35 (24.5%) discontinued before randomisation to a group II ACT: 10 (7.0%) NI ACT: 17 (11.9%) Waitlist: 13 (9.1%)</td>
</tr>
<tr>
<td>Finucane et al. (2023)</td>
<td>Palliative health and social care staff</td>
<td>UK (Scotland)</td>
<td>25-34: 5 (18%) 35-44: 6 (21%) 45-54: 11 (39%) 55-64: 4 (14%)</td>
<td>93% female</td>
<td>N=28 Single-arm feasibility trial</td>
<td>None</td>
<td>ProQOL&lt;sup&gt;e&lt;/sup&gt; (Primary outcome)</td>
<td>Overall: 5/28 (17.9%) Pre-intervention: 3 (10.7%) During intervention: 2 (7.1%)</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Population</td>
<td>Country</td>
<td>Age Distribution</td>
<td>Gender</td>
<td>Sample Size</td>
<td>Study Design</td>
<td>Control Group</td>
<td>Intervention</td>
<td>Primary Outcome</td>
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<tr>
<td>Paliliunas (2015) Thesis</td>
<td>School faculty members (General and special education teachers, speech and language pathologist, social worker, certified nurse, paraprofessional)</td>
<td>USA</td>
<td>18-24: 1 (7%) 25-34: 5 (36%) 35-44: 3 (21%) 45-54: 0 (0%) 55-64: 4 (29%) 65+: 0 (0%)</td>
<td>Female: 85.7%</td>
<td>N=14</td>
<td>Non-randomised control trial</td>
<td>Waitlist</td>
<td>MBI-ES&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Overall: 5/14 (35.7%) ACT: 4 (28.6%) Waitlist: 1 (7.1%)</td>
</tr>
<tr>
<td>Sairanen et al. (2019)</td>
<td>Parents of children with type 1 diabetes or functional disabilities with high self-reported burnout symptoms (SMQB score &gt;2.75)</td>
<td>Sweden</td>
<td>Overall: 42.7 ACT: 43.0 Waitlist: 42.3</td>
<td>Female: 81%</td>
<td>N=78</td>
<td>RCT</td>
<td>Waitlist</td>
<td>SMBQ&lt;sup&gt;f&lt;/sup&gt;</td>
<td>Overall: 32/78 (41.0%) ACT: 18 (23.1%) Waitlist: 14 (17.9%)</td>
</tr>
<tr>
<td>Szarko et al. (2022)</td>
<td>Medical students</td>
<td>USA</td>
<td>25</td>
<td>Female: 48%</td>
<td>N=281 Sample analysed: N=53 Only a sub-sample of students with high baseline distress (AAQ-II &gt; 24) was included in analysis.</td>
<td>Within-subject longitudinal study</td>
<td>None</td>
<td>MD-IRAP</td>
<td>Overall: 86/281 (30.6%) Time 1: 0 (0%) Time 2: 6 (2.1%) Time 3: 80 (28.5%)</td>
</tr>
</tbody>
</table>

ACT = acceptance and commitment therapy, CBT = cognitive behavioural therapy, RCT = randomised controlled trial
<sup>a</sup> Maslach Burnout Inventory – Human Service Survey (MBI-HSS); <sup>b</sup> Maslach Burnout Inventory (MBI); <sup>c</sup> Maslach Burnout Inventory - Educator Survey (MBI-ES); <sup>d</sup> Maslach Burnout Inventory – General Survey for Students (MBI-GS); <sup>e</sup> Professional Quality of Life scale (ProQOL); <sup>f</sup> Shirom-Melamed Burnout Questionnaire (SMBQ); <sup>g</sup> A Modified Implicit Relational Assessment Procedure (MD-IRAP)
<table>
<thead>
<tr>
<th>Study</th>
<th>iACT Characteristics</th>
<th>Results</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Axenova (2022) Thesis</strong></td>
<td><strong>Intervention</strong></td>
<td><strong>No. modules &amp; No. ACT processes targeted</strong></td>
<td><strong>Treatment &amp; Follow-up length</strong></td>
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<td></td>
<td>A brief, online, and self-guided modularized version of ACT. Hosted via Qualtrics. The content was adapted to tailor the material to this type of staff group. The intervention consisted of links to short videos, interactive exercises, and short answers/journaling questions. Participants were required to complete one module per week across the 3-week intervention period.</td>
<td>Modules: 3</td>
<td>Treatment: 3 weeks (6 hours total)</td>
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<td></td>
<td>Processes targeted:</td>
<td>Processes: 6</td>
<td>Follow-up: None</td>
</tr>
<tr>
<td></td>
<td>Module 1: Acceptance and Defusion. Module 2: Self as Context and Present Moment. Module 3: Values and Committed Action.</td>
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<tr>
<td><strong>Barrett &amp; Stewart (2020)</strong></td>
<td><strong>Intervention</strong></td>
<td><strong>No. modules &amp; No. ACT processes targeted</strong></td>
<td><strong>Treatment &amp; Follow-up length</strong></td>
</tr>
<tr>
<td></td>
<td>Two websites were designed for this study, one ACT and one CBT. The number of sessions and exercises per session were matched across interventions. Participants had to complete sessions 1 and 2 in week 1 and session 3 in week 2. Sessions and exercises could be revisited. Each video/exercise was followed by brief informational questions that tracked understanding of and</td>
<td>Modules: 3</td>
<td>Treatment: 2 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Processes: 6</td>
<td>Follow-up: None</td>
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attention to the material. Sessions were also followed by a feedback form measuring understanding of the information presented and perceived helpfulness of this information.

**Processes targeted:**
- **Session 1:** Experiential Avoidance, Cognitive Fusion
- **Session 2:** Cognitive Fusion, Self as Context, Values, Acceptance
- **Session 3:** Values, Committed Action

| Diaz (2022) Thesis | ACT Matrix training took place over online video conferencing (Zoom). Training materials (ACT Matrix template and activity scripts) were sent to participants before the training began. Participants also input data on their “in the moment daily activities” via a mobile phone application.

Participants attended a 1-2 hour orientation session, then completed 3-5 days of baseline data. Participants then had 4 ACT sessions to work through ACT exercises targeting different ACT processes (with up to 2 extra sessions available if needed). There was a 4-day maintenance phase without training, but participants continued providing daily data.

Burnout questionnaires were completed pre-training, post-training and during a follow-up period after the maintenance phase. |
| Modules: 5 Processes: 6 | Treatment: Sessions:
13 total 3-6 baseline 1-4 follow up
Sessions were roughly every 5 days, so:
~ 9 weeks total, ~3-4 weeks for the intervention phase
Follow-up: 5 days |
| Therapist-led (Following data calculated by review authors, not study authors) |

| Ditton et al. (2023) | The intervention was an ACT-based psychological flexibility training program delivered via a smartphone app created for this study. The app had two arms: and individualised version (II) and a non-individualised version (NI). |
| Modules: **Phase 1:** 7 sections **Phase 2:** |
| Treatment: 5 weeks (total time varies based on user engagement) | None |
| IIT analysis - linear mixed regression models
**Intervention vs waitlist**
Exhaustion:
- Individualised (mean change = -0.52, 95% CI = -3.70 to 2.65, P=.75) |

| 2 × 2 mixed ANOVA (ITT analysis) |
| Time: |
| F (1, 40) = 4.87, p = .03, partial η² = 0.108 |
| Higher burnout at baseline (M = 49.83, SD = 18.23, SE = 2.79, 95% CI = 44.02–55.31) than post-treatment (M = 47.21, SD = 17.20, SE = 2.62, 95% CI = 41.74–52.31) for both ACT and CBT intervention |
| F (1, 40) = 2.04, p = .16, partial η² = 0.049 |
| Time x Intervention: |
| F (1, 40) = 0.12, p = .73, partial η² = 0.003 |

Analysis not conducted on burnout scores by study authors.

No significant change in burnout scores from pre to post or follow-up for any measure.
| Content: | Stage 1: An introductory module identical for both II and NI groups. This familiarised students with the psychological flexibility model.  
Stage 2: A library of short (3-8 mins) experiential psychological flexibility exercises students could practise at any time. Each of the 6 ACT processes had a dashboard where training activities could be accessed (20 per process). To access the activities, students answered a prompt question, “Which of the following are you having the most difficulty with today?” The student's response was used for the II group to tailor the activities to their needs. Their response did not impact the NI group, and they were presented with 1 of the 6 processes randomly. |
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>6 ‘dashboards’ with 20 activities each (120 total) Processes: 6</td>
<td></td>
</tr>
<tr>
<td>Follow-up: None</td>
<td></td>
</tr>
</tbody>
</table>
| - Non-individualised (mean change = 1.60, 95% CI = −1.84 to 5.03, P=.34)  
Cynicism:  
- Individualised (mean change = −1.26, 95% CI = −4.46 to 1.94, P=.44)  
- Non-individualised (mean change = 1.00, 95% CI = −2.45 to 4.46, P=.57)  
Academic efficacy:  
- Individualised (mean change = −0.90, 95% CI = −0.90 to 2.79, P=.32)  
- Non-individualised (mean change = 2.02, 95% CI = 0.02−4.03, and P=.05) |
| Individualised vs non-individualised ACT  
- Exhaustion (Mean change = −2.12, 95% CI = −5.41 to 1.17, P =.21)  
- Cynicism (Mean change = −2.26, 95% CI = −5.57 to 1.05, P=.18)  
- Academic efficacy (Mean change = −1.08, 95% CI = −3.00 to 0.84, P=.27) |
| There were no statistically significant differences between the II and NI arms in any of the psychological outcomes assessed.  
Note: 21% (30/143) were engaging in psychological treatment at the time of the study. |
| Finucane et al. (2023)  
In-person intervention redesigned for online delivery due to COVID.  
The intervention was delivered across Microsoft Teams and involved three facilitated online group workshops and five self-directed e-learning modules. Participants received a workbook outlining the content each week. |
| Content:  
Week 1: Introduction to ACT  
Week 2: Values  
Week 3: Awareness  
Week 4: Review of materials  
Week 5: Openness  
Week 6: Defusion  
Week 7: Compassion  
Week 8: Review and trouble shooting |
| Modules: 8  
Processes: 6 |
| Treatment: 8 weeks (7 hours total)  
Semi-guided (3/8 weeks facilitated)  
Follow-up: 1 month |
| Mean, SD and effect size (completers only, N=12)  
Burnout  
- Baseline (M=22.6, SD=4.2)  
- FU (M=22.3, SD=5.7)  
- P=0.78  
- Cohen’s d=−0.15  
- Minimal change  
Secondary trauma  
- Baseline (M=21.5, SD=5.0)  
- FU (M=20.3, SD=5.4)  
- P=0.12  
- Cohen’s d=−1.03  
- Large reduction  
Compassion satisfaction  
- Baseline (M=38.8, SD=5.2)  
- FU (M=38.9, SD=4.9)  
- P=0.86  
- Cohen’s d=0.08  
- Minimal change |
| There was little change in burnout or compassion satisfaction, though secondary trauma scores fell between baseline and follow-up.  
At baseline, participant scores were high on compassion satisfaction and low on burnout, suggesting floor and ceiling effects. No participant met the baseline burnout threshold; thus, improvements in these outcomes were unlikely. |
The program was presented in an interactive course format using an online learning platform. Modules were released to the participants at the beginning of the intervention and were designed to require |
| Modules: 6  
Processes: 6 |
| Treatment: Self-directed (3 hours total)  
Semi-guided (scoring and answering) |
| Relationship between pre-test scores and change scores using Pearson’s correlation analysis EE:  
- ACT (r=0.751, p=0.144) |
| Compared to the waitlist group, there are significant improvements in emotional exhaustion and depersonalisation, but not |
approx. 30mins each to complete. The general format was an introduction to an ACT core process, three to five exercises, and a conclusion segment that reinforced and assessed the main concepts presented. The modules included multiple-choice questions, open response questions, poll questions, video/audio clips, and other instructional methods to monitor responding and assess understanding.

**Content:**
- Module 1: Acceptance
- Module 2: Defusion
- Module 3: Present Moment Awareness
- Module 4: Self-As-Context
- Module 5: Values and Committed Action
- Module 6: Review and Synthesis

### Follow-up:
- **None**
- **questions on the forum**

### Treatment:
- **10 weeks**

### Modules: 5
- Processed: 5 (all but self-as-context)

### Follow-up: 4 months

### Semi-guided (semi-structured feedback)

### Mean and standard deviations

<table>
<thead>
<tr>
<th></th>
<th>ACT</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>4.79 ± 0.91</td>
<td>4.79 ± 0.91</td>
</tr>
<tr>
<td>Post</td>
<td>4.01 ± 1.30</td>
<td>4.01 ± 1.30</td>
</tr>
<tr>
<td>FU</td>
<td>3.39 ± 1.56</td>
<td>3.39 ± 1.56</td>
</tr>
</tbody>
</table>

Cohen’s d: pre-FU = 0.88

Waitlist:
- Pre (4.87 ± 0.82)
- Post (4.74 ± 1.06)
- FU (4.78 ± 1.32)

Cohen’s d: pre-FU = 0.20

### Differences in scores between groups using an unpaired t-test with Welch’s correction:
- EE: t(4.597) = 0.660, p = 0.010.
- DP: t(3.625) = 3.341, p = 0.033.
- PA: t(3.524) = 1.040, p = 0.365

Note: participants with low emotional exhaustion scores at baseline were excluded from the analysis:
- ACT: N = 7 (out of 9)
- Waitlist: N = 4 (out of 5)

### Personal accomplishment after ACT training.
Evidence that the more severe a person’s personal accomplishment score was, the greater their scores improved in the ACT intervention.

---

A web-based program (ACTParents) was designed as part of this study. It was a 10-week intervention that taught parents skills and strategies to prevent and handle stress and worries in everyday life. It was accessible via a mobile-responsive website using a desktop, laptop, tablet or mobile phone. A personal coach guided the web program. Participants were instructed to complete five themed modules over either 1 week (module 1) or 2 weeks (modules 2–5).

**Processes targeted:**
- Module 1: Values
- Module 2: Value-based actions
- Module 3: Present moment
- Module 4: Defusion
- Module 5: Acceptance and self-compassion

### Treatment:
- **10 weeks**

### Follow-up: 4 months

### Semi-guided (semi-structured feedback)

### Mean and standard deviations

<table>
<thead>
<tr>
<th></th>
<th>ACT</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>4.79 ± 0.91</td>
<td>4.79 ± 0.91</td>
</tr>
<tr>
<td>Post</td>
<td>4.01 ± 1.30</td>
<td>4.01 ± 1.30</td>
</tr>
<tr>
<td>FU</td>
<td>3.39 ± 1.56</td>
<td>3.39 ± 1.56</td>
</tr>
</tbody>
</table>

Cohen’s d: pre-FU = 0.88

Waitlist:
- Pre (4.87 ± 0.82)
- Post (4.74 ± 1.06)
- FU (4.78 ± 1.32)

Cohen’s d: pre-FU = 0.20

The guided ACT web intervention produced significant improvements in burnout symptoms. There was a large (>0.80) between-group effect size in favour of ACT for burnout symptoms.
During the first year of medical school, all students participated in a mandatory “ACT for Student Well-Being” curriculum comprising an introductory lecture, interactive online modules, and experiential follow-up training.

Class 4 were the only class to receive a fully online intervention (via Zoom) due to the COVID-19 pandemic.

**Content:**
- **Orientation:** course overview, personal testimonials, and values exercise
- **Online modules:** Interactive short video series, including multiple choice questions and open responses.
  - Module 1 covered: psychological flexibility, experiential avoidance, present-moment contact, defusion, and acceptance.
- **Follow-up training:** All 6 key ACT processes were reviewed; 2-3 experiential exercises were taught per skill; independent and group ACT Matrix completed.

**Modules:**
- **3 phases:**
  - Orientation (1hr)
  - 2 online modules (3hrs total)
  - follow up training session (2hrs)

**Processes:** 6

**Treatment:** 6 hours total

**Follow-up:** 1 year (none for class 4)

**Semi-guided (orientation and training session facilitated)**

**Linear mixed effects models (N=119)**

- **Negative MD-IRAP**
  - Time: $\chi^2 (2) = 6.55$, $p = .038$.
  - Negative MD-IRAP scores significantly increased from Time 1 to 3 ($B = 0.28$, $SE = 0.11$, $p = .039$).
  - Comparisons of other time points were not significant ($p>.05$).

- **Positive MD-IRAP**
  - Time: $\chi^2 (2) = 5.02$, $p = .081$

**Means and standard deviations of Class 4**

<table>
<thead>
<tr>
<th>Time</th>
<th>Negative IRAP</th>
<th>Positive IRAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1 (n = 16)</td>
<td>0.16 (0.68)</td>
<td>0.52 (0.29)</td>
</tr>
<tr>
<td>Time 2 (n = 17)</td>
<td>0.59 (0.57)</td>
<td>0.45 (0.49)</td>
</tr>
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</table>

Negativity bias on the MD-IRAP increased significantly from Time 1 to Time 3 (indicating increased identification with negative terms), while positivity bias was maintained across all three time points.
<table>
<thead>
<tr>
<th>Study</th>
<th>p-value(s)</th>
<th>MBI EE</th>
<th>MBI DP</th>
<th>MBI PA</th>
<th>MBI Total</th>
<th>MBI C</th>
<th>MBI AE</th>
<th>ProQOL CS</th>
<th>ProQOL ST</th>
<th>ProQOL B</th>
<th>SMBQ</th>
<th>Negative IRAP</th>
<th>Positive IRAP</th>
<th>Magnitude(s)</th>
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<tr>
<td>Axenova (2022)</td>
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<td>Small decrease</td>
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<td>0.78</td>
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<td>0.19</td>
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<td>0.75</td>
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<tr>
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<td>0.12</td>
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<td>0.57</td>
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<td>Large increase</td>
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<tr>
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<tr>
<td>Pooled effect size</td>
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</table>

**Effect sizes are calculated using:** [https://www.psychometrica.de/effect_size.html](https://www.psychometrica.de/effect_size.html) and pooled effect sizes calculated using the software package ‘Comprehensive Meta Analysis’**

**MBI: Maslach Burnout Inventory, MBI subscales; EE: emotional exhaustion; DP: depersonalization; PA: personal accomplishment; C: Cynicism; PE: Professional Efficacy; ProQOL: Professional Quality of Life scale, ProQOL subscales; CS: compassion satisfaction; ST: secondary traumatic stress; B: burnout; SMBQ: Shirom-Melamed Burnout Questionnaire; IRAP: Implicit Relational Assessment Procedure, Negative IRAP: response score to stimuli with a negative connotation; Positive IRAP: response score to stimuli with a positive connotation**

**a** II: individualised group; NI: non individualised group

**b** Pre-Follow-up
Investigating the effectiveness of an internet-delivered acceptance and commitment therapy intervention for staff working with individuals with intellectual disabilities in reducing psychological distress and burnout

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Author Note: No known conflicts of interest to disclose.

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Word count: 7,364 (excluding references, tables, captions/legends, figures, and figure captions/legends)

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Abstract

Background: Acceptance and commitment therapy (ACT) has been found to be effective in reducing burnout and psychological distress. This study investigated the effectiveness of an internet-delivered ACT intervention for staff supporting individuals with intellectual disabilities.

Method: A concurrent multiple-baseline design across subjects was implemented to investigate the change in burnout, psychological distress, and psychological flexibility scores. Data from nine participants were analysed using visual analysis and calculation of reliable change indexes and clinically significant changes.

Results: There was evidence of improvements in personal burnout, openness to experience, and overall psychological flexibility scores.

Conclusions: This study adds preliminary evidence that internet-delivered ACT improves burnout and psychological flexibility in staff working with individuals with intellectual disabilities. It supports the utility of delivering psychological therapies online, providing organisations more flexibility in staff wellbeing initiatives. These findings need replication in larger-scaled studies.

Lay summary

- Personal burnout and psychological flexibility scores were improved by the end of the internet-delivered ACT intervention compared to pre-intervention.
- Findings support the utility of delivering psychological therapies online.
- This will allow organisations more flexibility in staff wellbeing programmes.

Keywords
Acceptance and commitment therapy; burnout; intellectual disabilities; multiple baseline; psychological distress; single case experimental design.

**Introduction**

Within intellectual disability services, the COVID-19 pandemic has seen support staff face additional challenges, e.g. increased job demands due to understaffing and increased client agitation and distress (Embregts et al., 2021). Research suggests the pandemic led to increased fear, anxiety, frustration, disappointment, guilt, feeling overwhelmed by fluctuating emotions, and disturbed sleep and exhaustion in staff (Embregts et al., 2021; Sheerin et al., 2022). It also exacerbated many issues already present, particularly staff shortages, mental health difficulties, and recruitment and retention difficulties (Bignal & Cassani, 2020; Lunsky et al., 2021). It is, therefore, essential to find interventions to reduce burnout and improve staff wellbeing.

**Defining burnout**

The predominant definition comes from Maslach et al. (1986) who conceptualise burnout as a pattern of emotional exhaustion, depersonalisation (i.e. negative/cynical attitudes towards clients) and reduced personal accomplishment. Newer research has begun to question the validity of Maslach’s definition due to concerns over its three-factor model, and the conceptualisation of depersonalisation as a core feature rather than a coping mechanism (de Beer & Bianchi, 2019; Kristensen et al., 2005; Tavella et al., 2020). Alternative suggestions include burnout as a pattern of exhaustion (emotional, physical, or cognitive) due to prolonged work-related problems (Guseva-Canu et al., 2021). This latter definition will be used for this study.

**Burnout in intellectual disability services**

Exposure to behaviour that challenges, including violence and aggression, is directly related to increased anxiety, work stress and burnout in intellectual disability service staff (Klaver et
al., 2021; Ryan et al., 2021; Smyth et al., 2015). Other burnout risk factors include excessive workloads, long working hours, role ambiguity, low identification with job role, a de-emphasis on empowerment and autonomy in decision-making, and lack of resources to address emotional health (Finkelstein et al., 2018; Sprung et al., 2023)

High rates of burnout for staff working in intellectual disabilities services are associated with increased psychological distress, poorer general health, lower life satisfaction, decreased job satisfaction and a higher risk of staff turnover (Kozak et al., 2013; Mutkins et al., 2011; Shenoi et al., 2018; Willard-Grace et al., 2019). Burnout can lead to decreased quality of care, higher reports of adverse outcomes, fewer positive interactions between clients and staff and increased negative attributions towards client’s behaviours (Bethay et al., 2009; Lawson & O’Brien, 1994; Rose et al., 1998; Salyers et al., 2017).

**Burnout interventions**

Burnout interventions typically place emphasis on solution-focused approaches that aim to process thoughts, feelings, and sensations differently using problem-solving and cognitive restructuring strategies (Leoni et al., 2016; Richardson & Rothstein, 2008). For intellectual disability staff, many stressors arise from experiences where change is not easily possible (e.g. behaviour that challenges, shift working, and high workloads) (Ryan et al., 2021). Evidence suggests that solution-focused approaches do not adequately address these types of stressors and can instead increase burnout and stress (Ó Donnchadha, 2017; Noone & Hastings, 2010; Shin et al, 2014).

Furthermore, many of the risk factors for burnout in intellectual disability services (as with other areas of healthcare) stem from systemic and organisation issues (Finkelstein et al., 2018; Sprung et al., 2023) and evidence suggests that the most effective approaches for reducing burnout are organisation-directed interventions (e.g. rescheduling hourly shifts or reducing workload) (Panagioti et al., 2017). Given this context, implementing individual-directed interventions (such as psychological therapy) serves only to treat the “symptoms” of
burnout rather than the underlying causes. Additionally, focusing solely on these types of interventions may send the message to staff that burnout is a personal issue rather than a natural consequence of systemic stressors (Montgomery, 2014; Wu et al., 2022).

Given that burnout is a risk factor for the development of mental health difficulties (Mutkins et al., 2011; Shenoi et al., 2018), psychological interventions are still a necessary component of managing burnout and decreasing distress. However, psychological interventions could also allow for the potential to empower people to advocate for systemic changes and dismantle the structures currently maintaining the high levels of burnout in healthcare systems. One particular psychological intervention which may allow for this empowerment is Acceptance and Commitment Therapy (ACT) through increased psychological flexibility and connection with values (Bond et al., 2006; Edwards, 2022; Flaxman et al., 2013).

**Acceptance and Commitment Therapy (ACT)**

ACT is a third-wave cognitive-behavioural therapy that seeks to alleviate distress by reducing the influence of painful inner experiences while increasing a person’s ability for mindful, values-guided action to live a more meaningful life (Harris, 2019). ACT’s aim is not to challenge, avoid, or eliminate distressing inner experiences, but to facilitate a different way of relating to them, and to become more in touch with personal values which may alter our reaction to, or perception of, the challenges we face (Hayes et al., 2013). ACT may therefore be better suited to an intellectual disability staff population, and there is evidence ACT can reduce psychological distress even when work-related stressors remain unchanged (Noone & Hastings, 2010). ACT could therefore promote wellbeing in intellectual disability staff members through increased psychological flexibility, and it may also have the potential to promote wider organisational and cultural changes through connecting individuals with their intrinsic values and increasing their ability to engaged in values-driven behaviours (Edwards, 2022).
There is growing evidence for the effectiveness of ACT in reducing psychological distress and burnout in paid carers (Han et al., 2020; Ó Donnchadha, 2017; Reeve et al., 2018; Towey-Swift et al., 2022), but little research examining its effectiveness in an intellectual disability staff specific context. One systematic review found nine papers examining the effects of ACT on staff working with individuals with intellectual and neurodevelopmental disorders (Garcia et al., 2021). These studies reported reductions in psychological distress (Bethay et al., 2013; McConachie et al., 2014; Noone & Hastings, 2010), stress (Biglan et al., 2013), thought suppression (McConachie et al., 2014); and increased acceptance (Biglan et al., 2013). Two studies reported increased positive client engagement post-intervention (Castro et al., 2016; Chancey et al., 2019). Caution should be used when examining these results since the studies were of variable quality, with moderate to severe risk of bias (Garcia et al., 2021). While research supports the potential benefits of ACT in an intellectual disability staff population, there is need for higher quality research, including controlled studies utilising active controls before firm conclusions can be drawn.

**Online interventions**

ACT interventions often report high attrition rates (Towey-Swift, 2022) due to scheduling conflicts from staff workloads (Barrett & Stewart, 2020; Brinkborg et al., 2011; Lloyd et al., 2013). This highlights the need for staff interventions to be as flexible as possible. One potential avenue to achieve this is by delivering interventions online, requiring less time commitment than face-to-face interventions since travel is not required. Preliminary evidence suggests online interventions can be effective and potentially produce similar outcomes to face-to-face therapy (Barak et al., 2008).

Internet-delivered ACT (iACT) interventions have been found to improve depression, anxiety, quality of life and psychological flexibility (Brown et al., 2016; Thompson et al., 2021). However, effect sizes were small, and most studies recruited from the general population, limiting generalisability, so firm conclusions cannot be drawn at present.
Research has not yet determined the effectiveness of iACT interventions for staff in intellectual disabilities services. This study aims to address this gap in the literature.

**Aims**

This study aims to investigate whether staff (education and direct support staff) who work directly with individuals with an intellectual disability:

1) experience a decrease in self-reported burnout symptoms,

2) experience a decrease in self-reported psychological distress, and

3) experience increased self-reported psychological flexibility after completing an iACT intervention.

**Methodology**

**Participants**

Participants were recruited from UK third-sector social care providers that directly support children and/or adults diagnosed with an intellectual disability. Organisations were contacted through email and invited to participate. Information was also circulated through the Fife Provides Forum, the Coalition of Care and Support Providers in Scotland and the Scottish Commission for People with Learning Disabilities. Special education schools in Fife and Edinburgh City Councils were also contacted and invited to participate.

The inclusion criteria were as follows:

- participants aged 18+,
- worked in their current role for at least six months,
- provide direct support to individuals with intellectual disabilities who display behaviour that challenges,
- access to the internet,
• fluent in the English language.

Behaviour that challenges was defined as behaviour of an intensity, frequency, or duration that threatens the safety or quality of life of the individual, or others, and is likely to lead to restrictive, aversive, or exclusionary responses (Emerson, 2009).

**Design**

This study used a concurrent multiple-baseline design across subjects. A concurrent design was chosen as evidence suggests it is methodologically stronger than a non-concurrent design and allows for the control of historical threats to internal validity (Carr, 2005). It followed an ABC design where A was the baseline phase, B was the intervention phase, and C was a follow-up point four weeks later.

Typically, multiple-baseline designs vary the length of baselines in order to stagger the introduction of the intervention (Ledford & Zimmerman, 2023). However, since we wished to maintain a group element, we chose to run three iACT groups at varying timepoints, staggering the beginning of the baseline phase for each participant. A random number generator (www.random.org) was used to assign participants a baseline length.

**Measures**

Participants completed three measures weekly across baseline and intervention phases and again at follow-up. Measures were selected for their validity and brevity due to the high participant burden created by the study design.

**Psychological distress**

Psychological distress was measured using the Clinical Outcomes in Routine Evaluation 10 (CORE-10; Barkham et al., 2013). The CORE-10 is a 10-item self-report measure, with items related to anxiety, depression, trauma, physical problems, functioning and risk to self. It was designed to be used as a session-by-session monitoring tool. Responses are
measured on a 5-point Likert scale. The measure has shown good internal reliability and convergent validity (Barkham et al., 2013; Coates et al., 2020).

**Burnout**

Burnout was measured using the *Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005)*. The CBI is a 19-item self-report measure containing three subscales: personal, work-related, and client-related burnout. Responses are measured on a 5-point Likert Scale and re-scaled to a 0-100 metric for scoring. The measure has shown good content validity, internal consistency, and construct validity (Alvey, 2020; Kristensen et al., 2005; Milfont et al., 2008; Shoman et al., 2021).

**Psychological flexibility**

The *Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT; Francis et al., 2016)* was used to measure psychological flexibility. The CompACT is a 23-item measure containing three subscales: openness to experience (OE), behavioural awareness (BA), and valued action (VA). Responses are measured on a 7-point Likert scale. The measure has shown good face validity, content validity, and internal consistency (Francis et al., 2016).

**Intervention**

Materials were adapted with permission from the RESTORE Online Intervention (Finucane et al., 2023). The intervention lasted four weeks and consisted of videos, discussion groups (via Microsoft Teams), and ‘homework’ tasks. Participants watched videos on different ACT topics each week, completed ‘homework’ tasks, including mindfulness exercises and worksheets, and attended a one-hour-long discussion groups, facilitated by the lead researcher.

**Baseline phase**

The baseline phase lasted three to six weeks, based on guidelines by Lane & Gast (2014), to gather enough data points to establish stability whilst minimising participant burden.
Participants were emailed weekly a link to a questionnaire (hosted by Qualtrics) where they completed the three measures.

**Intervention phase**

During the intervention phase, participants received weekly emails containing links to the questionnaire, intervention videos (hosted by The University of Edinburgh Media Hopper Create), YouTube videos, and Word document attachments. Emails also contained a link to access the discussion groups. Participants received the emails on the Monday morning and attended the discussion groups on either the Thursday (groups 2 and 3) or Friday (group 1). The full intervention protocol can be found in Appendix F.

**Week 1**

Week 1’s materials were split into three videos covering the topics of ACT, openness and mindfulness. Participants were also asked to complete worksheet one alongside practising mindfulness for 5-10 minutes each day using the YouTube link provided.

Video 1 (introduction to ACT) began by discussing common experiences of those working directly with individuals with intellectual disabilities (including a video clip and direct quotes). It asked participants to think about their own experiences of working in intellectual disability services and the impact on their own wellbeing. It then went on to outline a simplified version of the ACT psychological flexibility model (ACT triflex; Harris, 2019) and used the kitchen sink metaphor to explain the rational for using ACT as an intervention approach.

Video 2 (developing openness) discussed common coping strategies and outlined the rational for why avoidance is not a successful long-term strategy, discussing how our mind is programmed to ‘problem-solve’ but this is often ineffective with difficult thoughts or emotions that cannot be easily ‘fixed’. It goes through a couple exercises (white rabbit and lie detector) to highlight that we cannot control our thoughts or emotions before going on to define the concept of openness, using the quicksand metaphor to highlight the futility of struggling against difficult thoughts and emotions.
Video 3 (mindfulness) goes on to define what mindfulness is, dispel some common myths, and explore how mindfulness can help us develop our openness skills, and goes through a ‘leaves on the stream’ mindfulness exercise.

Week 2

Week 2’s materials were split into three videos covering the topics of awareness and thought defusion. Participants were also asked to complete worksheets two and three alongside practising everyday mindfulness with a workplace activity.

Video 4 (developing awareness) defined the concept of awareness, discussed the consequences of not being aware in our lives, and discussed how present moment awareness can be beneficial in work settings, including improving connection with clients. It explained how to use mindfulness to foster present moment awareness and introduced a mindfulness of breath exercise to practise.

Video 5 (through defusion) discussed how our thoughts and judgements can interfere with our lives and impact our mental wellbeing and differentiated between having a thought and believing a thought. It then began introducing the idea of thought defusion and recognising thoughts for what they are (bits of language and images, not rules/threats/facts).

Video 6 (playing with our thoughts) introduced a number of through defusion exercises to help participants begin to practise defusion. These included ‘milk, milk, milk’, singing thoughts, ‘I’m having the thought that…’ and ‘what would I say to a friend?’ exercises.

Week 3

Week 3’s materials were split into four videos covering the topics of values and committed action. Participants were also asked to complete worksheet four alongside their daily mindfulness practise.

Video 7 (values) defined what values are and used the compass metaphor to differentiate between values and goals.
Video 8 (values exercise) then went through the 'sweet spot' exercise focusing on a workplace event alongside the 'retirement party' exercise to help participants begin to consider their own values, especially those related to their jobs.

Video 9 (putting values into action) introduced the 'jar of rocks' metaphor to highlight the importance of prioritising valued activities before moving on to talk through worksheet four to get participants to begin thinking about committed actions they could start taking which are in line with their own personal values. It also introduced the 'unwelcome party guest' metaphor to introduce the idea of willingness to accept unpleasant thoughts and/or emotions in the service of living in line with our values.

Video 10 (acceptance of emotions) built on the 'unwelcome party guest' metaphor by introducing an acceptance of emotions mindfulness exercise to help participants practise this skill.

**Week 4**

Week 4’s materials were split into four videos covering the topics of responding to barriers and self-compassion. Participants were also asked to complete worksheets five and six alongside their daily mindfulness practise.

Video 11 (barriers) discussed common barriers to engaging in committed action and possible solutions for each of these barriers. It then talked through worksheet five using an example before introducing the 'monsters on a boat' metaphor to reinforce the importance of commitment to values even in the face of difficulty.

Video 12 (self-compassion) introduced the idea of self-compassion and used the 'two teachers' metaphor to highlight the common discrepancy in how we speak to ourselves vs others and the ineffectiveness of self-criticism. It spoke about the different types of self-support we can use as well as the importance of regular self-care.

Video 13 (self-compassion exercise) went through a self-compassion mindfulness exercise.
Video 14 (keeping things going) used the ‘tending the garden’ metaphor to highlight the need for continued self-maintenance and continued practise of ACT skills even when things are going well.

Follow-up

Four weeks after the intervention phase participants were emailed a link to the final questionnaire.

Analysis

Visual analysis was conducted using guidance by Lane & Gast (2014). Four categories of change were inspected: change in means, change in trend, shift in level, and latency of change. The shift in level was considered by calculating the percent of non-overlapping data (PND). For latency of change, the relative level change (RLC) was calculated to provide information regarding the proportional change from the last half of the baseline to the first half of the intervention phase using median values. The absolute level of change (ALC) was calculated to provide information regarding the immediacy of change from the last session of baseline to the first session during the intervention. The measures were also compared from baseline to end of the intervention using reliable change index (RCI) and Clinically Significant Change (CSC) scores, calculated using Excel (Guhn et al., 2014; Morley & Dowzer, 2014).

Ethics

The University of Edinburgh School of Health in Social Science Research Ethics Committee granted ethical approval. Edinburgh City and Fife Councils also granted site-specific approval to recruit special school staff.

Results

Twenty-two participants consented to the study between September 2022 and January 2023. Two participants withdrew before being assigned a baseline length (see attrition
below). Participants were split into three intervention groups, one between September and November 2022 and two between January and March 2023. Five participants were assigned to the first group, ten to the second, and five to the third.

Participants in groups one and two were direct support staff employed in Scottish intellectual disability services for children and/or adults (including residential team leaders and support workers, workshop support workers, care assistants, a complex needs facilitator, a practice development facilitator, and an advice worker). Participants in group three were teaching staff from special educational settings across Edinburgh City and Fife Councils (including teachers, teaching assistants, and a head teacher).

**Attrition**

See Figure 1 for a flow-chart of the study recruitment and attrition. Two participants withdrew before assignment to a baseline length, one cited sabbatical from work, and the other cited conflicting work commitments. Of the twenty participants who began the study, eleven (55%) dropped out before the end of the intervention phase. Five out of five participants in the first group (25%) and six out of ten in the second group (30%) dropped out. Analysis of the available data indicated no significant differences on any baseline measures except the behavioural awareness (BA) subscale of the CompACT ($F(1, 17) = 4.69$, $p = .045$, $d = -.995$), with participants who dropped out ($M = 18.98$, $SD = 5.30$) showing significantly higher BA scores at baseline than participants who completed the intervention ($M = 13.77$, $SD = 5.16$).

**Engagement**

Attendance was taken for the discussion groups as a simple measure of engagement. For group one, no participants attended any of the discussion groups. For group two, three participants attended week one, two attended weeks two and three, and one attended week four, giving an overall attendance rate of 20%. For group three, five participants attended week one, three attended week two, and four attended weeks three and four, giving an
overall attendance rate of 80%. The attendance rate for the total sample was 30%. Some participants emailed to explain the lack of attendance, citing the following reasons: conflicting work schedules (eight times), conflicting life events (twice), illness (twice) and forgetting (once).

Engagement with the video and learning materials was harder to track. Although the video player tracked watch counts for each video there was no way to match this with participants. All participants who attended the discussion groups reported watching the video materials. The watch counts were recorded on 18 April 2023 and can be found in Appendix F.

**Visual Analysis**

Graphs summarising the change in outcome scores across groups can be found in Figures 2-9. Individual participant graphs with trend lines can be found in Appendix B. Graphs were created in Microsoft Excel using guidance from Watts and Stenhoff (2021). Data were visually analysed for the nine participants who completed the intervention. Three participants had missing data for one week across the baseline or intervention phase (P3, P5, P8). However, each had a minimum of three data points for each phase and were therefore included in the analysis. Summary tables of the main results can be found in Appendix C.

A reliable change index (RCI) score was then calculated for each participant to provide further information regarding the change in outcome scores (see Appendix C.5). Cronbach’s alphas for each scale were taken from studies with similar population characteristics (Alvey, 2020; Barkham et al., 2013; Francis et al., 2016; Milfont et al., 2008). More detailed information can be found in Appendix D.

Results from both the visual analysis and RCI were then combined and a participant was deemed to have ‘improved’ if their data showed a reliable change in mean scores from baseline to intervention alongside an improving trend for intervention scores, as well as a PND of at least 50% (indicating that at least half of the participant’s intervention scores were below their lowest baseline score for burnout and psychological distress, or above their
highest baseline score for psychological flexibility). In order to conclude there was sufficient evidence of a relationship between the intervention and the change in scores, there must be evidence of improvement in at least three participants (Lane & Gast, 2014).

**Burnout**

For personal burnout, six participants showed an improvement in mean scores from baseline to intervention (P2, P3, P4, P5, P6, P9), four of which were reliable changes based on the RCI (P2, P4, P6, P9), and three of which were accompanied by an improving trend for intervention scores (P2, P4, P9). The PND for these three participants ranged from 50%-75%, indicating at least half of their intervention scores were below their lowest baseline score.

For work-related burnout scores, five participants showed an improvement in mean scores from baseline to intervention (P2, P4, P5, P6, P9), one of which was a reliable change with an accompanying improving trend (P4). The PND for this participant was 75%, indicating three out of four intervention scores were below their lowest baseline score. Two participants showed a reliable deterioration in work-related burnout scores from baseline to intervention (P7, P8), with deteriorating trends for intervention scores.

For client-related burnout scores, three participants showed improvements in mean scores from baseline to intervention (P2, P4, P9); however, none were reliable changes, and only one was accompanied by an improving trend for intervention scores (P2). One participant showed a reliable deterioration in client-related burnout scores from baseline to intervention, with a deteriorating trend for intervention scores (P8).

Overall, there was sufficient evidence of change in personal burnout scores but limited evidence for change in work-related or client-related burnout scores.

**Psychological distress**
For CORE-10 scores, four participants showed an improvement in mean scores from baseline to intervention (P1, P2, P4, P5), two of which were reliable changes based on the RCI (P4, P5). However, none were accompanied by an improving trend for intervention scores. Overall, there was not sufficient evidence of change in psychological distress scores.

**Psychological flexibility**

For OE scores, seven participants showed an improvement in mean scores from baseline to intervention (P1, P2, P4, P5, P6, P7, P9), four of which were reliable changes based on the RCI (P2, P4, P5, P6), and three of which were accompanied by an improving trend for intervention scores (P2, P4, P5). The PND for these three participants ranged from 33% to 100%, indicating at least one intervention score was above their highest baseline score.

For BA scores, four participants showed an improvement in mean scores from baseline to intervention (P4, P5, P7, P9), three of which were reliable changes (P4, P5, P9), two of which were accompanied by improving trends (P4, P5). The PND for these two participants was 67% and 75%, indicating more than half the intervention scores were above their highest baseline score.

For VA scores, five participants showed an improvement in mean scores from baseline to intervention (P2, P3, P4, P5, P9), three of which were reliable changes (P2, P4, P9), one of which was accompanied by an improving trend (P4). The PND for this participant was 100%, indicating all four intervention scores were above their highest baseline score.

For total CompACT scores, seven participants showed an improvement in mean scores from baseline to intervention (P1, P2, P4, P5, P6, P7, P9), three of which were reliable changes and were accompanied by an improving trend (P2, P4, P5). The PND for these three participants ranged from 33% to 100%, indicating at least one intervention score was above their highest baseline score.
Overall, there was sufficient evidence of change in OE scores and total psychological flexibility scores but limited evidence for change in BA or VA scores.

**Clinically significant change (CSC)**

Clinically significant change (CSC) analysis was also conducted to provide more information about the level of change across participants. It was only conducted on burnout (CBI) and psychological distress (CORE-10) scores since the chosen measure of psychological flexibility (CompACT) does not have any available and validated cut-off scores. See Appendix D for full details.

**Burnout**

While the CBI does not have clinical cut-off scores, the authors categorise scores between 50-74 as “moderate”, scores of 75-99 as “high”, and a score of 100 as “severe” burnout (Kristensen et al., 2005). These descriptors were therefore chosen for CSC analysis, with the addition that scores between 25-50 were categorised as “low” and scores below 25 as “very low”.

For personal burnout scores, the baseline mean score for one participant was classified as low (P9), seven were moderate (P1, P2, P3, P4, P5, P6, P8), and one was high (P7). At the intervention phase, two participants had reliably moved from moderate to low (P2: M = 57 to 45; P4: M = 57 to 44).

For the work-related burnout score, the baseline mean scores for two participants were classified as low (P4, P9), and seven were moderate (P1, P2, P3, P5, P6, P7, P8). At the intervention phase, one participant had non-reliably moved from moderate to high (P7: M = 72 to 83).

For client-related burnout scores, the baseline mean score for one participant was classified as very low (P9), seven were low (P1, P2, P3, P4, P6, P7, P8), and one was moderate (P5). Score categorisations remained the same during the intervention phase.
Psychological distress

The CORE-10 has the following clinical cut-off scores: non-clinical (0–5), low (6–10), mild (11–14), moderate (15–19), moderate-to-severe (20–24), and severe (≥25) (Connell & Barkham, 2007).

At baseline, the mean scores for two participants were classified as non-clinical (P6, P9), five were mild (P1, P2, P3, P7, P8), one was moderate (P4), and one was moderate-to-severe (P5). At the intervention phase, one participant had non-reliably moved from mild to non-clinical (P2: M = 13 to 10), one had reliably moved from moderate to mild (P4: M = 15 to 11), and one had reliably moved from moderate-to-severe range to moderate (P5: M = 20 to 15). However, one participant had reliably moved from mild to moderate (P7: M = 13 to 16), and one had reliably moved from mild to moderate-to-severe (P8: M = 13 to 20).

Follow-up data

Follow-up data was completed for four participants in group two and three participants from group three. Analysis could not be conducted on the follow-up data as it was only collected at one time point, however, looking at participant graphs can indicate whether intervention phase trends appear to be maintained at follow-up (see Figures 2-9, or Appendix B for individual graphs).

For group two, all four participants had improved scores at follow-up compared to the end of the intervention phase for CORE-10 scores, BA scores and total CompACT scores (P1, P2, P3, P4). Three participants had improved scores at follow-up compared to the end of the intervention phase for personal burnout scores (P1, P2, P4), work-related burnout scores (P1, P2, P4), OE scores (P2, P3, P4), and VA scores (P1, P3, P4). Two participants had improved scores at follow-up compared to the end of the intervention phase for client-related burnout scores (P1, P4).
For group three, all participants had improved scores at follow-up compared to the end of the intervention phase for all outcomes except BA (P6, P7, P8). For BA, two participants had improved scores (P6, P8) while the other remained unchanged (P7). Although P7’s scores had improved for almost every outcome at follow-up, scores were not outside the trend lines for intervention or baseline phases, indicating a lack of overall change.

Overall results indicate outcome scores were either improved or maintained at follow-up compared to the intervention phase.

**Discussion**

**Burnout**

Results show preliminary evidence for improved personal burnout scores between the baseline and intervention phases, but limited evidence for improvements in work-related or client-related burnout scores. A lack of change in burnout is consistent with the ACT psychological flexibility model and consistent with the wider literature showing a reduction in distress despite the continued presence of burnout stressors (Reeve et al., 2018; Finucane et al., 2023; McConachie et al., 2014). ACT does not change an individual’s circumstances or beliefs about these but rather aims to increase their ability to engage in valued activity despite difficult inner experiences (Hayes et al., 2012).

The CBI classifies personal burnout as the "degree of physical and psychological fatigue and exhaustion experienced by the person" and is less a measure of burnout and more of generic fatigue or exhaustion (Kristensen et al., 2005, p. 197). This distinction may explain the differences in improvement across burnout subscales. Studies have shown ACT interventions improve emotional exhaustion scores (Lloyd et al., 2013; Macías et al., 2019), which would be in line with our findings if the personal burnout scale is a measure of fatigue/exhaustion rather than an indicator of burnout per se.
Psychological distress
There was no evidence of change in psychological distress in this study. This contradicts previous research which found small effects in favour of iACT on psychological distress outcomes (Brown et al., 2016; Thompson et al., 2021). Seven participants were within the non-clinical or mild ranges during the baseline phase (Connell & Barkham, 2007), indicating low levels of psychological distress across the sample, potentially suggesting the presence of floor effects. Previous burnout research with intellectual disability staff found significant effects in favour of ACT only in samples with high baseline levels of distress (Reeve et al., 2018). This trend may explain our results since significant change would be unlikely for most of the sample.

Psychological flexibility
Results indicate participants showed improvements in overall psychological flexibility and were more willing to experience internal events (e.g. thoughts, feelings, sensations) without the urge to avoid or control them, which is in line with previous ACT studies in similar populations (Biglan et al., 2013; Finucane et al., 2023; Han & Kim, 2022; McConachie et al., 2014; Thompson et al., 2021). We found limited evidence that participants were more behaviourally aware or that they engaged in more valued activities during the intervention phase, which is in contrast with other similar studies (Han & Kim, 2022). One explanation for this could be the presence of ceiling effects, since five participants had high baseline valued action scores (mean range = 31-44 out of a possible 48), with the remaining four participant’s scores being ≥25 (out of a possible 48). However, ceiling effects are unlikely to explain the lack of change in behavioural awareness.

Recruitment and retention
There were severe difficulties in recruiting and retaining participants, which may have affected the study findings. While there was no evidence of significant differences in baseline burnout or distress scores for those who completed the study and those who
dropped out, it is possible that staff members who did not sign up for the study chose not to due to higher levels of burnout or distress. This may suggest those who may benefit the most from iACT interventions are absent from the research data, a trend which appears to be present in other research studies (Tower-Swift et al., 2022). It is unclear whether the presence of those with higher distress would affect the study findings and, if so, in what direction. This would benefit from further research.

We contacted multiple organisations across the UK, but few responded. Two organisations communicated a lack of capacity which is consistent with data showing that intellectual disability services in the UK are currently struggling with staff shortages (Imo, 2017; Johnson et al., 2018, UNISON, 2022), and likely impacted our ability to recruit. However, not prioritising staff wellbeing initiatives means burnout levels may remain high, leading to a negative cycle where staff sickness increases due to burnout, adding further workload pressures to remaining staff, further increasing their risk of burnout and sickness or turnover (Kozak et al., 2013).

Other organisations indicated they were happy to participate, however, it did not appear time was ringfenced for staff to engage with the intervention. As such, most participants reported completing the intervention outside work hours. This may have acted as a barrier and could explain some of our recruitment and retention difficulties. This pattern is comparable to that experienced by other healthcare professionals who reported difficulties accessing staff wellbeing initiatives due to heavy workloads and staff shortages (Clarissa et al., 2021). Completing the intervention outside work runs counter to the aims of the intervention by adding further demands onto participants, which is a risk factor for burnout (Finkelstein et al., 2018). While no formal feedback was collected from participants who dropped out, attendance at discussion groups was influenced by work demands. As such, participants who were unable to attend some discussion groups will not have received similar interventions to other participants, which could be a confounding factor. Anecdotally,
participants who were able to attend most or all of the discussion groups voiced that it was this element they felt they benefitted most from.

Research suggests that organisation-directed interventions (e.g. rescheduling hourly shifts or reducing workload) were the most effective approaches in reducing burnout (Panagioti et al., 2017). This suggests that changing the risk factors associated with burnout is more effective than delivering individual-directed interventions to address the symptoms. This finding is perhaps unsurprising, although organisation-directed interventions would not address some of the intellectual disability service-specific risk factors, like behaviour that challenges and lack of reciprocity of relationships (Ryan et al., 2021). If organisations could commit to ringfencing time for staff during work hours to engage in individual-directed interventions (such as ACT), this may lead to greater improvements in burnout and psychological distress. It is possible this could have been true for this study where, had participants been able to engage with the materials during work hours (versus their personal time), it might have led to greater changes in outcomes. Assessing the validity of this hypothesis is beyond the scope of this study, however, it may be a helpful research question for future iACT studies and something intellectual disability organisations should be mindful of.

**Intervention factors**

**Length of intervention**

The intervention lasted four weeks, for a total of eight hours. It is conceivable that this was too short to facilitate reliable improvements in psychological distress, behavioural awareness, or valued action. While official feedback was not gathered, anecdotally, participants mentioned a desire for a longer intervention to allow more time to practice skills. These comments are supported by literature indicating that regular practice of mindfulness is required to improve psychological distress (Carmody & Baer, 2008; Huppert & Johnson, 2010). However, prior research with intellectual disability support staff has found significant
effects with ACT interventions of similar lengths to this study (Bethay et al., 2013; Biglan et al., 2013; Finucane et al., 2023; Noone & Hasting, 2010), suggesting that it was likely not the intervention length that led to limited change in outcomes.

**Therapist factors**

Research indicates several therapist variables may affect attendance and engagement with psychological therapies, including the therapeutic relationship and therapist experience (Holdsworth et al., 2014). These factors may have influenced this study’s results. For example, the therapeutic relationship may have been challenging to build given the limited opportunity for interaction (one hour per week for four weeks online). Furthermore, the group facilitator was a Trainee Clinical Psychologist, so whilst they had prior training and experience in delivering ACT, they would not have been as experienced as other qualified therapists.

**Group benefits**

ACT group interventions have been found to have small positive effects on psychological distress and work-related outcomes (Reeve et al., 2018; Prudenzi et al., 2021; Towey-Swift et al., 2022). Studied interventions varied in their exact delivery format and intervention components, but all included a combination of didactic teaching, mindfulness practice, metaphors, group discussions and homework exercises, similar to this study. It is possible that the translation of these components to an online format changed the nature of the intervention enough so as not to provide the full benefits. For example, it may be that the ability to immediately discuss the materials accounts for some of the benefits of a group intervention. Therefore, attending a discussion group days later may not provide the same effects. Alternatively, one hour of group contact a week may limit the ability to form a cohesive group atmosphere, however, positive results have been found in other brief ACT interventions (e.g. Kroska et al., 2020). The discussion group taking place online may have been another critical factor, and perhaps online groups do not provide the same benefits as face-to-face groups, however, research suggests online groups can provide similar results.
(Barak et al., 2008). This factor therefore seems less plausible an explanation for this study’s lack of change.

**Engagement with intervention**

The two participants who attended only one out of four discussion groups showed no reliable changes in mean scores across any measures, both showed reliable deterioration in personal burnout scores, and one also showed reliable deterioration in work-related burnout, client-related burnout, and psychological distress scores. The current literature indicates that therapist guidance moderates improvements in depression, anxiety and psychological flexibility (French et al., 2017; Spijkerman et al., 2016; Thompson et al., 2021). This could suggest that the discussion groups were an essential therapeutic component, and this may benefit from further investigation in future research.

This study had limited ways to gather data regarding how often the intervention materials were accessed. Although video watch counts were recorded, this tells us little about which participants watched which videos. Other than through feedback in discussion groups, there was also no way to determine engagement with the intervention “homework” tasks. This makes it difficult to determine whether the improvement in outcome scores was truly attributable to intervention effects. Regular practising of mindfulness may be necessary to fully derive benefits (Carmody & Baer, 2008; Huppert & Johnson, 2010), and ‘homework’ compliance is a significant predictor of post-treatment outcomes for ACT interventions (LeBeau et al., 2013). It is therefore possible the lack of change in certain outcomes was connected to limited engagement with weekly ‘homework’ tasks. Future research would benefit from explicitly gathering data on engagement, especially for iACT interventions where there is limited therapist input.

**Strengths**

A strength of this study is its novel intervention format. The choice to combine online video materials with an online discussion group allowed the intervention to maintain some of the
benefits of a group intervention whilst offering flexibility to participants to engage with the materials at times convenient to their work schedules. Given the small sample size anticipated and obtained, the choice to implement a multiple baseline design is also a strength of this study. It allowed for more in depth and meaningful data to be collected than more traditional designs (e.g. RCT) that would have been too underpowered for a meaningful interpretation of the data.

Limitations

The intervention is limited by its small sample size. Research indicates that to achieve the therapeutic benefits of group interventions, the ideal number of participants is five to ten (Biggs et al., 2020). Since discussion groups were not fully attended each week, the groups were potentially too small to achieve the therapeutic benefits.

The decision to include a group element meant the intervention had to be run concurrently for multiple participants, so baseline lengths could not be extended to ensure stability before introducing the intervention phase, therefore complicating the interpretation of results through visual analysis where stability was not achieved (Kazdin, 2019).

Given the time limits of recruitment and the anticipated difficulties, the decision was made to include all eligible staff members regardless of baseline levels of burnout in order to increase the potential sample size of the study. This decision, however, may have affected our findings and it is possible that a sample of staff with high baseline levels of burnout and/or psychological distress may have shown greater change in scores following the intervention. Future research may benefit from targeting staff members reporting high levels of burnout in order to investigate this trend further.

Due to difficulties recruiting intellectual disability support staff, the participant criteria was widened to include special education staff directly supporting children with intellectual disabilities. This modification was deemed appropriate as they report similar levels of burnout, face similar workplace risk factors, and experience similar consequences of burnout.
(Bermejo-Toro et al., 2015; Mack et al., 2019; Madigan & Kim, 2021). Between-group data analysis revealed no significant differences between intellectual disability support staff and teaching staff; however, care should still be taken when interpreting the overall results as it may mask potential differences between the two populations.

Therapist fidelity to the ACT model was not measured, so it is unclear the impact this may have had on the results. The intervention materials were delivered via video and therefore consistent with the ACT model and not subject to variability. There is no way, however, to verify whether the contents of the discussion groups adhered appropriately to the intervention protocol. It would be useful for future studies to consider ways to monitor treatment fidelity.

**Conclusions**

This study provides preliminary evidence for improvements in self-reported personal burnout, openness to experience and overall psychological flexibility scores. There was no evidence of change in work-related or client-related burnout, psychological distress, or behavioural awareness and valued action scores. The nature of the study design prevents conclusions regarding the causality of effects, and findings need replication in larger-scaled studies before firm conclusions can be drawn; however, this study provides preliminary evidence of the effectiveness of iACT interventions.
Figure 1: Recruitment and attrition flow chart

September 2022 – December 2022:

Expressed interest (N=7)

Opted in (N=5)

Assigned to group one (N=5)

Completed the intervention (N=0)

Completed the follow-up (N=0)

January 2023 – April 2023:

Expressed interest (N=17)

Opted in (N=17)

Opted out before assigned a baseline length (N=2)

Assigned to group two (N=10)

Completed the intervention (N=4)

Completed the follow-up (N=4)

Assigned to group three (N=5)

Completed the intervention (N=5)

Completed the follow-up (N=2)
Figure 2: Personal burnout scores

Figure 3: Work-related burnout scores
Figure 4: Client-related burnout scores

Figure 5: CORE-10 scores
Figure 6: OE scores

Group Two

- Participant 1
- Participant 2
- Participant 3
- Participant 4

Group Three

- Participant 5
- Participant 6
- Participant 7
- Participant 8
- Participant 9

Figure 7: BA scores

Group Two

- Participant 1
- Participant 2
- Participant 3
- Participant 4

Group Three

- Participant 5
- Participant 6
- Participant 7
- Participant 8
- Participant 9
Figure 8: VA scores

Figure 9: Total CompACT scores
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## Appendix A – Risk-of-bias interrater discussion

### The Revised Cochrane risk-of-bias tool for randomized trials (RoB 2)

<table>
<thead>
<tr>
<th>Rater</th>
<th>Study</th>
<th>Randomization process</th>
<th>Deviations from intended interventions</th>
<th>Missing outcome data</th>
<th>Measurement of the outcome</th>
<th>Selection of the reported result</th>
<th>Overall</th>
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<td>Barrett &amp; Stewart (2020)</td>
<td>Low</td>
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<td>Some concerns</td>
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<tr>
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<td>Barrett &amp; Stewart (2020)</td>
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<td>Some concerns</td>
<td>Low</td>
<td>Some concerns</td>
<td>Some concerns</td>
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### The Risk Of Bias In Non-randomized Studies – of Interventions (ROBINS-I)

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<th>Bias in classification of interventions</th>
<th>Bias due to deviations from intended interventions</th>
<th>Bias due to missing data</th>
<th>Bias in measurement of outcomes</th>
<th>Bias in selection of the reported result</th>
<th>Overall</th>
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<td>C.P. Szarko et al. (2022)</td>
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### The single case design risk of bias tool (SCD RoB)

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<th>Study</th>
<th>Sequence Generation</th>
<th>Participant Selection</th>
<th>Blinding of participants and personnel</th>
<th>Procedural Fidelity</th>
<th>Blinding Outcome Assessors</th>
<th>Data Sampling</th>
<th>Dependent Variable Reliability</th>
<th>Selective Outcome Reporting</th>
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</table>

Barret & Stewart (2020)

- Deviations from intended interventions – agreed to use “low” rating because intention-to-treat analysis was used

Szarko et al. (2022)

- Bias due to confounding – agreed to “serious” rating” as there was no available evidence to suggest confounding variables were controlled for. S.C. had initially rated “moderate” due to the choice of an objective outcome measure, but it was agreed this was likely not applicable to this category and was covered instead by ‘bias in measurement of outcomes’
• Bias due to deviations from intended interventions – agreed to “unclear” rating since there was no reported measure of attendance to ensure participants actually engaged with the intervention materials
• Overall – this was updated to “serious” due to the change in above variables
Appendix B – Participant graphs

Figure B.1 – Personal burnout scores (CBI)
Figure B.2 – Work-related burnout scores (CBI)
Figure B.3 – Client-related burnout scores (CBI)
Figure B.4 – Psychological distress scores (CORE-10)
Figure B.5 – Openness to experience scores (CompACT)
Figure B.6 – Behavioural awareness scores (CompACT)
Figure B.7 – Valued action scores (CompACT)
Figure B.8 – Total psychological flexibility scores (CompACT)
## Appendix C – Results tables

### Table C.1: Change in mean outcome scores

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Bold highlighting indicates a change in the therapeutic direction.
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Numbers in bold indicate a change in the therapeutic direction; percentage change was based on the total possible score on outcome measures.
Table C.5: Reliable change index (RCI) in outcome scores

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Appendix D – RCI and CSC data

Reliability of measure data (Cronbach’s alpha)

CBI:

Direct support professionals (DSP) work with adults with intellectual or developmental disabilities (USA) (Alvey, 2020)

- Personal: $\alpha = 0.92$
- Work: $\alpha = 0.91$
- Client: $\alpha = 0.94$

Teaches (New Zealand) (Milfont et al., 2008)

- Personal: $\alpha = 0.87$
- Work: $\alpha = 0.87$
- Client: $\alpha = 0.79$

Median scores used:

- Personal: $\alpha = 0.895$
- Work: $\alpha = 0.89$
- Client: $\alpha = 0.865$

CORE-10:

General population sample (UK) (Barkham et al., 2013)

- “The overall alpha (.90) and SD (8.6) yielded a 95% reliable change index of 7.5 (rounded up to 8) and a 90% reliable change index of 6.3 (rounded down to 6).”

CompACT:

Non-clinical sample of adult participants (UK) (Francis et al., 2016)

- OE: $\alpha = 0.90$
- BA: $\alpha = 0.87$
- VA: $\alpha = 0.90$
- Overall: $\alpha = 0.91$

Cut-off scores

CBI: “Scores of 50 to 74 are considered ‘moderate’, 75–99 are high, and a score of 100 is considered severe burnout” (Kristensen et al., 2005)

CORE-10: “The overall alpha (.90) and SD (8.6) yielded a 95% reliable change index of 7.5 (rounded up to 8) and a 90% reliable change index of 6.3 (rounded down to 6)” (Barkam et al., 2013)
Appendix E – Intervention videos and view count

Week 1: [https://media.ed.ac.uk/playlist/dedicated/1_kw1146gv/](https://media.ed.ac.uk/playlist/dedicated/1_kw1146gv/)
Week 2: [https://media.ed.ac.uk/playlist/dedicated/1_sogzxlz/](https://media.ed.ac.uk/playlist/dedicated/1_sogzxlz/)
Week 3: [https://media.ed.ac.uk/playlist/dedicated/1_f5lmu870/](https://media.ed.ac.uk/playlist/dedicated/1_f5lmu870/)
Week 4: [https://media.ed.ac.uk/playlist/dedicated/1_ybvtod5v/](https://media.ed.ac.uk/playlist/dedicated/1_ybvtod5v/)

- Video 1: Introduction to ACT – 30 views
- Video 2: Developing Openness – 21 views
- Video 3: Mindfulness – 19 views
- Video 4: Developing Awareness – 20 views
- Video 5: Your Mind Isn’t Always Your Friend – 16 views
- Video 6: Playing with Our Thoughts – 21 views
- Video 7: Values – 16 views
- Video 8: Values Exercises – 16 views
- Video 9: Putting Values into Action – 14 views
- Video 10: Acceptance of Emotions – 15 views
- Video 11: Barriers – 11 views
- Video 12: Self-Compassion – 14 views
- Video 13: Self-Compassion Exercise – 15 views
- Video 14: Keeping Things Going – 8 views
Appendix F – Intervention protocol

Session 1: Intro to ACT & Awareness

VIDEO 1: Intro (~5 mins)

- Outline understanding and experience of working directly with individuals with ID
  - Include video/quotes from support workers discussing their common work experiences and stressors
  - Think about the common experiences of working in these services and how that affects you, e.g.:
    - Organisational aspects (scarce resources, team dynamics, complexity)
    - Aspects of the work (exposure to other’s suffering, emotional labour)
    - Interpersonal aspects (communication, expectation, effect of being in a hurry)
    - Internal aspects (Building a strong connection with meaning and purpose vs shoulds, rules etc), (Building awareness of what’s influencing us versus autopilot), (Getting hooked into thoughts and feelings, self-stories etc.)
    - Response aspects (avoiding what is hard – short term versus long term consequences)
    - Many of these factors outwith our direct control

- Introduce the ACT approach:
  - Responding with Psychological Flexibility, (Skills of Open, Aware and Engaged), doing what matters, doing what is right, having clear boundaries, leaving work at work, doing fun things outside of work and reconnecting with personal meaning in being a support worker.
  - ACT may be a better approach to take then other more well-known approaches (e.g. CBT) due to nature of workplace stressors
  - Kitchen sink metaphor – ways to keep sink unblocked even though sources of stress still there

- Provide overview of the intervention:
  - watch online videos & complete weekly questionnaires, homework practice in between sessions, online weekly discussion group on Teams. Reinforce commitment needed in session and between sessions; expectations for daily practice of the homework tasks; importance of weekly feedback.
  - Explain the role of feedback in developing and improving the intervention.

VIDEO 2: Developing Openness (~20 mins)

- Talk about common ways of coping
  - Rationale for why avoidance doesn’t work. Link to worksheet one.

- Mind is a problem solver
  - Good at solving problems (cave man example). Try to do the same thing with our emotions, try to fix or get rid of it. Does this really work? The more you try to force yourself to enjoy/get rid of something the worse it gets. Cheer up/smile example

- White rabbit & lie detector exercises - Instead of trying to control thoughts and emotions, we will try a different approach.
• **Define openness**  
  o Openness is about allowing things to be as they are, letting go of unproductive struggle or fighting. You don’t need to like it or approve of it; it is simply allowing things to be as they are.  
  o *Quicksand metaphor*—show futility of struggling with thoughts and emotions.

VIDEO 3: Introduce Mindfulness (15 mins)

• **Define mindfulness**  
  o Mindfulness is the ability to be fully present, aware of where we are and what we’re doing, and not overly reactive or overwhelmed by what’s going on around us, i.e. to notice what’s happening around us without judgement or needing to change anything.

• Other activities that help us to ground are a simple statement to slow down, noticing five things exercise.

• Introduce the idea of switching off so that you can get present.

• Deliberately planning ‘down time’ for your mindful awareness – doing things that are absorbing that are not work.

• **Introduce metaphor of thoughts and feelings like a stream**  
  o Sometimes the stream is less full, its gentle and manageable. Other times the stream is in flood, its rushing and full. Sometimes the flow of emotions is so strong that we are tempted to build a dam on the stream, to stop the water for a while. This might work OK for short periods of time, particularly if we know that later on we have a mechanism for letting some of the water out, reducing the pressure behind the dam. If we don’t do that, or if we overuse that strategy, the water builds up behind the dam and becomes greater and greater, with more and more pressure. When that happens small cracks can lead to a gushing out of water. Little things upset us more than they should. Our job is to learn how to be open to the flow of our emotions and thoughts. Letting them come and flow. Occasionally we may need to temporarily shut the dam, but we do so out of choice and later we come back to allow the water to flow again. This video and homework is all about that openness skill – of just allowing things to flow, when it is a good time to do so.

• **Leaves on the stream exercise:**  
  o [https://www.youtube.com/watch?v=00AbNXNLUUs](https://www.youtube.com/watch?v=00AbNXNLUUs)

HOMEWORK:

• Worksheet One – Coping Strategies  
• Practise mindfulness for 5 to 10 mins a day (using YouTube link)

DISCUSSION:

• Brief mindful check-in exercise  
• Review worksheet. Are coping strategies working in the long term? Provide rationale for trying willingness and acceptance approaches.
• Problem solving mindfulness practice.

Session 2: Awareness and Defusion

VIDEO 4: Core concepts of Awareness (~10 mins)

• Define awareness
  o Awareness is about being present, noticing what our situation is (both the situation around us and the world inside of us – in our bodies and in our minds). Not just awareness but not trying to suppress difficult thoughts or emotions.
  o Wanting to move away or hide when we are experiencing something difficult is very natural, and yet it’s something we can master and overcome. We can learn to stay present and act according to our values even in difficult times, our skills at being aware help us to do that.
  o Improving present moment awareness can also help improve connection with clients.
  o We can train those skills using techniques such as mindfulness meditation (link to video 3)

• Everyday mindfulness
  o Recap awareness & mindfulness
  o Discuss ways to bring mindfulness into everyday activities – give workplace example
  o Recap benefits (including to clients)

• Practise mindfulness more:
  o Mindfulness of breath: https://www.youtube.com/watch?v=fUeEnkJKyDs

VIDEO 5: Defusion/Your mind isn’t always your friend (~10 mins)

• Your mind isn’t always your friend
  o Sometimes the things that get in the way are our own minds. Thoughts that we have about ourselves our abilities, skills and qualities. Our own judgements. Sometimes they are thoughts about other people’s intentions, attitudes, motivations. But there is a big difference between having a thought and buying a thought.

• Stepping back from thoughts
  o Seeing thoughts as thoughts, even ones that are hard to have or appear to be true. Even thoughts we may have had about ourselves for a long time. We can learn how to unhook from them, see them for what they are, and choose to keep moving towards what is important to us.
  o Leaves on the stream exercise one way to step back from thoughts but there are other ways we can also do this.

• Your mind is not your enemy
  o Sometimes the judgements, comparisons, predictions, and plans that your mind gives you are in fact helpful and help us to live effectively in the world. However, it’s probably fair to say that a great deal of the minds activity is not as helpful or effective. We need to use our awareness, openness
and values skills to determine which thoughts are going to be helpful to us and which are just mind chatter. These skills at unhooking help us to see that and to make choices.

VIDEO 6: Playing with thoughts (~15 mins)

- **Introduce defusion**
  - Defusion is about learning to see thoughts, images and memories for what they are (bits of language and images) rather than what they appear to be (threatening events, rules to be obeyed, or objective truths/facts).

- **‘Popping the bubble of language’**
  - Many of these kinds of exercises can feel silly or can be a bit confusing at first. This is natural, and we invite you to give them a try and simply allow your experience to be your guide. Sometimes the silliest ones can actually be the most powerful. Even though some might be unusual or seem daft, we are never belittling your experience. We are simply trying to reduce the power that thoughts have over you. We can think about it as ‘popping the bubble of language’. Our minds can be like a conjurer doing a magic trick. We are often taken in by the trick – we believe what our minds show us. However, if your mind is anything like my mind, there will be plenty of times when your mind has shown you something that didn’t quite fit the facts, didn’t add up, was an illusion. When we begin to see that more clearly – it’s like we have seen how the conjurer does the trick, and once that happens, we can never quite go back to not seeing it. We start to really see the mind as simply a series of judgements, comparisons, predictions.

- **Defusion exercises:**
  - *Mary had a little...* Show how easily programmable the mind is.
  - *Milk, milk, milk.* Clarify what the exercise points at. Thoughts are powerful, but in essence they are thoughts and pictures in our heads. We can choose how we respond to them. How we can pop this bubble even more strongly is to do something unusual with the thought. Introduce repeating a more difficult thought.
  - *Singing the thoughts.* Give personal example.
  - *I’m having the thought that*’
  - *What would I say to a friend that was having this thought?*
  - Introduce the notion that we ‘have’ our thoughts rather than that we ‘are’ our thoughts.

**HOMEWORK:**

- Practice everyday mindfulness: choose one work activity
- Worksheet two: Awareness in everyday life
- Worksheet Three: Practicing Unhooking Skills

**DISCUSSION:**

- Brief mindful check-in exercise
- Hands in front of face exercise
Session 3: Values and Committed Action

VIDEO 7: Core concepts of VALUES (~10 mins)

- Values are what we care about, the things that most matter to us
- Introduce the compass metaphor (Directions as values, destinations as goals)
- Make the compass metaphor concrete to actual values – particularly focussed on the meaning and purpose being a support worker. Begin gently naming ideas around values.

VIDEO 8: VALUES EXERCISE (~10 mins)

- Deliver a version of the Sweet Spot Exercise – focussed on a particular time / moment / interaction when work was good. What qualities were in that moment? What would it be like to be more like that, to bring that quality into work more?
- Move that into a future focus – imagine it’s your retirement. What would you most want your colleagues to say about you at work? About the kind of colleague you had been? Imagine you could hear from some of the individuals that you had supported and/or their families. What do you most wish that they would say? Because its imagination you can imagine that you could hear video messages from particular people you had worked with.

VIDEO 9: Putting values into action (~10 mins)

- Introduce the Jar of Rocks metaphor (e.g. https://www.youtube.com/watch?v=cPgMeKfQFq8)
- Introduce the values worksheet – talk through it
- Party guest metaphor – can we be willing to accept unwanted thoughts/emotions in order to engage in valued activities?

VIDEO 10: Acceptance of emotions exercise (~10 mins)

- Good to continue practising our awareness skills. Focus this week on accepting
- https://www.youtube.com/watch?v=Hw7rmdITCFs

HOMEWORK:

- Worksheet Four: Values, Goals and Actions
- Continue practising mindfulness & everyday mindfulness

DISCUSSION:

- Brief mindful check-in exercise leading into...
- Short eyes closed practice of ‘softening, leaning in, opening up to feelings’. Practice with a recent difficult event at work. Perhaps not a 100 KG problem, think of a thing at work that was a little bit upsetting, more like a 10 KG problem. Could be patient focussed or team focussed. Any time there was a
thought or feeling that you found harder to have. See if you can allow yourself to feel the feelings that were there. Notice how you were responding then. Notice how you have been responding to it since. Just practice being as open to that feeling as you can. Is there anything about how you handled it then or how you have been dealing with it since that you think didn’t serve your values well? Is there anything you would change about that? What might you do differently if that kind of thing comes up again?

- Discussion of values and chosen goals. Get participants to think about an immediate short term goal they can set, something they can do today.
- Set committed actions & check-in with them next week

Session 4: Barriers & Self-Compassion

VIDEO 11: How we respond to barriers (~10 mins)

- **Barriers**
  - Now that participants are clearer about values, goals and actions, and have been practicing awareness, they will probably have noticed the barriers to action
  - 4 main barriers: HARD acronym
    - Hooked
    - Avoiding discomfort
    - Remote from values
    - Doubtful goals
  - Solutions for each
    - Defusion
    - Openness and awareness
    - Connect with values
    - Set more realistic goals

- **How we respond**
  - Talk through worksheet five
  - Give an example – short term versus long term and ask the question: is it effective?
  - Label the process of avoidance, outline when it might be effective and when it won’t be

- **Monsters on a boat/passengers on a bus metaphor**

VIDEO 12: Learning to treat yourself as you do others (~10 mins)

- Given that you are a support worker it probably come easy to you to care for other people. You have given a significant portion of your time to the practice of caring, of being patient, kindly, and supportive to other people. Think of a recent work episode where you feel you gave good care. Let yourself notice the qualities that you brought to that. See if you can also think of a situation where a colleague was upset or affected by something at work. Let yourself notice what qualities you brought to that moment. How did you speak to them, what did you do for them? Now – ask yourself this: How often do I bring those same qualities to myself, that way of speaking to myself, particularly in moments when I am finding things tough?

- Highlight that almost all of us find it easier to be compassionate and kind to other people than we do to ourselves.
• **Two teachers metaphor**
  o Introduce the idea of self-kindness, self-compassion, self-support, self-care.
  o Ask which teacher they would want for their child/client? Which teacher are they being for themselves? Link this to the metaphor of a craftsperson looking after their tools. What would it be like if we thought of self-compassion as cleaning and sharpening our tools every day?

• **Introduce the idea of two types of self-support:**
  o In the moment actions: how we are talking to ourselves, standing towards ourselves in moments of difficulty, being patient with ourselves, talking supportively in our minds, versus beating ourselves up for not knowing the answer, for having doubt etc.
  o ongoing self-maintenance: the pattern of activity of how we care for ourselves and keep our qualities bright. Every health professional would agree that attending regular CPD events is important to stay in touch with the profession. We can even think of regular self-support as part of that. Its giving you what you need to be able to do this demanding job.

• **Self-care**
  o Discuss importance
  o Talk through worksheet six

VIDEO 13: Self-compassion video (~10 mins)

• [https://www.youtube.com/watch?v=9TBpGiTrra8](https://www.youtube.com/watch?v=9TBpGiTrra8)

VIDEO 14: Keeping it going (~5 mins)

• **Introduce the ending and highlight the need for continued self-maintenance.**
  o Use the tending the garden metaphor. You can think about this work as if it were like creating a wonderful garden. You already had a good garden, this programme has helped you to add to it, to shape it in certain ways. We have created new paths with you and planted new seeds, and your efforts in cultivating and nurturing these new shoots has led to new growth. If you go forward with the intention to keep tending the garden, a little care each day will keep the paths well-trodden, the weeds down and nature will simply do what it does and allow this to blossom. By giving a little time to it each day, you will be able to enjoy the fruits of your labour, for the rest of your life. The garden of yourself will be a place of refuge, safety, support for ever, even if life hands you difficult challenges. If on the other hand you leave the garden behind, don’t keep walking in its paths, if you allow the weeds to grow, then those paths may be harder to walk in the future, it may be harder to get back to your garden and you might find that in itself a barrier. Use the skills you’ve been learning as your gardening tools to help you keep tinkering, pottering, exploring, developing and keep on growing your garden a little each day.

HOMEWORK:

• Practise mindfulness.
• Worksheet Five: Barriers and how to deal with them
• Worksheet Six: Active Self Care

DISCUSSION:

• Do a grounding mindfulness type of introduction. Then after a few moments, bring in a visualisation. Imagine that you could see a recent moment when you were at work and you were in a moment of difficulty. Perhaps it was a moment when you didn’t know what to do, perhaps you were stressed, it was complex, perhaps you doubted yourself, your abilities or skills. Imagine you could see it as if you were there in the room, watching yourself in action. As you watch that version of yourself in that room, a health professional in action, you also know what is happening inside his or her mind and body in that moment of difficulty. Imagine that in the heat of the action, time stops. Whatever is happening in that room stops for a moment, and there is only the you that is here now, and the you that was there then. What would you want to say to the you there then, in that moment of difficulty? What might you offer them or give them in that moment? Imagine doing or saying that... something kind, supportive, patient.... Now see if you can imagine what it would be like in a moment of difficulty like that, to receive those kind, friendly words from yourself. Imagine how that might change how you are in that moment? And then let the images drop away and return to the room gradually.

• Check in with committed actions from last week – how did it go? Did barriers get in the way?
• Discuss ending and reaffirm importance of living in line with your values.
### Appendix G – Intervention worksheets

**Worksheet One: Coping Strategies**

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<td>Were there any positives or negatives to using this strategy in the short term? Were symptoms reduced?</td>
<td>Were there any positives or negatives to using this strategy in the longer term? Did the symptoms return? Did they worsen?</td>
<td>Looking at the whole picture, is this strategy working for you? Do you think it is helping or keeping the problem going over the longer term?</td>
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Worksheet Two: Awareness in Everyday Life

Growing our awareness skills is really two things: firstly its practicing meditation exercises to enhance our ability to notice the world around us, and the world inside us in a non-reactive way. Secondly, it is applying these skills in everyday situations. These are easier to do in calm or neutral situations, and we usually have to practice in those kinds of situations to be able to eventually use these skills when we are in a high-pressure situation.

To help you practice awareness in everyday life, choose three activities that you do each day. These can be any activities, for example, brushing your teeth, tying your shoe laces, eating your breakfast. It helps if they are neutral tasks that are relatively short. It’s not realistic to expect yourself to be mindful for long periods of time, or when you are under pressure (at least not at first).

Practice approaching these tasks with the same qualities of present moment awareness that you encounter in the meditation exercises. For example, if you choose ‘Brushing my teeth’, pay attention to the feel of your toothbrush in your hand, the ‘squeezy-ness’ of the toothpaste tube, the coldness and minty-ness of the toothpaste in your mouth, notice how it feels as your mouth foams up, feel the toothbrush moving on your teeth and gums etc. If your mind wanders off during the tooth brushing, simply observe that and bring your attention gently back to the sounds, sensations, and sights of brushing your teeth.

These tasks then become a cue to paying attention more purposefully in everyday life. Just like any kind of training, the more you practice these the better your skills at staying present will become.

Use this sheet to identify and commit to daily awareness building tasks and to record how you are doing on each one.

I will commit for the next week to bring a present moment focus of attention to the following three daily activities:

1.

2.

3.

Put this sheet somewhere where it will remind you each day. Use this chart to tick to record that you have remembered to engage in this task:

<table>
<thead>
<tr>
<th>Task</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
<th>Day 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<td></td>
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<tr>
<td>3</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Simple Ways to Get Present

**Take Ten Breaths**
This is a simple exercise to centre yourself and connect with your environment. Practice it throughout the day, especially any time you find yourself getting caught up in your thoughts and feelings.

1. Take ten slow, deep breaths. Focus on breathing out as slowly as possible until the lungs are completely empty—and then allow them to refill by themselves.
3. See if you can let your thoughts come and go as if they’re just passing cars, driving past outside your house.
4. Expand your awareness: simultaneously notice your breathing and your body. Then look around the room and notice what you can see, hear, smell, touch, and feel.

**Drop Anchor**
This is another simple exercise to centre yourself and connect with the world around you. Practice it throughout the day, especially any time you find yourself getting caught up in your thoughts and feelings.

1. Plant your feet into the floor.
2. Push them down—notice the floor beneath you, supporting you.
3. Notice the muscle tension in your legs as you push your feet down.
4. Notice your entire body—and the feeling of gravity flowing down through your head, spine, and legs into your feet.
5. Now look around and notice what you can see and hear around you. Notice where you are and what you’re doing.

**Notice Five Things**
This is yet another simple exercise to centre yourself and engage with your environment. Practice it throughout the day, especially any time you find yourself getting caught up in your thoughts and feelings.

1. Pause for a moment
2. Look around and notice five things that you can see.
3. Listen carefully and notice five things that you can hear.
4. Notice five things that you can feel in contact with your body (for example, your watch against your wrist, your trousers against your legs, the air on your face, your feet upon the floor, your back against the chair).
5. Finally, do all of the above simultaneously

*(Taken from Russ Harris, 2009, [www.actmadesimple.com](http://www.actmadesimple.com))*
Worksheet Three: Practicing Unhooking Skills

To help you in developing your stepping back skills, it can be helpful to track which skills you have been using. Use the sheet below to reflect each day which of the types of ‘unhooking’ exercises you have been using. Tick the box if you have used that technique that day, you can use as many as you like. To remind you of the different skills, they are described overleaf.

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
<th>Day 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 “I’m having the thought that...”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Saying thoughts in a different voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Singing thoughts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Thought repetition (milk, milk, milk)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Leaves on a stream (seeing thoughts external to me)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Perspective taking (what would I say to....)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Seeing the thoughts as MINE, but not ME</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write here any other techniques you’ve been using to step back from thoughts and feelings:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What has been the effect of practicing ‘unhooking’? Make any notes here, what have you noticed?
The different unhooking skills

“I’m having the thought that”:
When you catch yourself having a thought that is unpleasant or hard to have, for example “Oh my god I can’t deal with this!” See if you can catch yourself, take a deep breath and rephrase it in your mind “I am having the thought: ‘Oh my God, I can’t deal with this”. After saying it like that for a moment, try one more step, by saying in your mind, “I am noticing that I am having the thought, “Oh my God I can’t deal with this”

Singing thoughts:
Choose a go to tune that you can use. For me (David) for some reason it worked well when the tune was ‘Don’t blame it on the boogie”. Sing your tricky thought to that tune (either in your mind or out loud – depending on the situation). I think it’s good to have a tune prepared, but you can experiment with mixing it up and using different tunes. Even though this is one of the more unusual unhooking skills, it’s also one of the most powerful. It can radically change how we deal with our thoughts, even the ones that could be true.

Saying thoughts in a different voice:
Just like the singing your thoughts exercise, this one is one of the more unusual ones. Think of a person that you could imagine saying your tricky thoughts. It might be helpful to practice this in advance, before the ‘heat of the moment’. Imagine the Queen saying it, or imagine Billy Connolly saying your thoughts. It could be a character such as Yoda, Marge Simpson, or Batman. Alternatively you could imagine something general such as a robot voice saying the thought.

Thought Repetition:
Remember the milk, milk, milk exercise? Take your tricky thought and boil it down to its essential oil: what one work would represent this thought? For example, if I were facing a challenge and I had the worry: “What if I mess this up?” I might boil that down to the word ‘Fail’.  With this exercise, I repeat the word fail over and over for about 90 seconds. Use a watch or timer to do it rather than just guessing. The first 20 seconds you will usually notice a rise in stress about it, keep going through that and see what happens.

Leaves on a stream:
This is the exercise we practiced, and you can practice it on your own using the audio MP3 file. In addition, once you get familiar with the practice, you can use this activity when you have a tricky thought. Simply take a moment to imagine that you could see the tricky thought outside of your mind. Imagine what it would look like on a leaf floating past you on the stream? It may float off, or it might linger with you, just see if you can watch it. Notice what it is like to see it outside of you: you are here, the thought is over there.

Perspective Taking:
When you have a tricky thought, try and catch it and ask yourself, “If a friend told me they were having this thought, what might I say to them?” See if you can also extend that same supportive, friendly voice to yourself.

My thoughts are mine; they are not me:
When you catch a tricky thought, see if you can notice that there is a difference between the you that is having the thought and the thought itself. This thought does not describe the whole of you. It might be part of you, but YOU are having it. You are bigger than your thoughts. Thoughts might be like clouds in the sky. See if you can notice what it feels like to say, “I am the sky, not the clouds.”
Worksheet Four: Values, Goals and Actions

Thinking of the video and exercises you watched this week see if you can write those important values in the space below. Remember values are abstract and tend to be guiding principles rather than specific actions. If you are having difficulty describing your own values, you can pick from the list below the box, as a guide.

In this box: write words about each area of life that you care about and how you would most like it to be in your life. If an area doesn’t resonate with you, that’s fine. These are about your personal choices.

<table>
<thead>
<tr>
<th>Some values that other people have identified as important to them are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenting: Being the kind of parent you want to be</td>
</tr>
<tr>
<td>Family: Being the kind of son or daughter, brother or sister that you most want to be</td>
</tr>
<tr>
<td>Intimate relationships: Being the kind of wife or husband that you would most want to be</td>
</tr>
<tr>
<td>Friendship: Being the kind of friend that you most want to be</td>
</tr>
<tr>
<td>Community / society: Contributing to or giving something back to your community</td>
</tr>
<tr>
<td>Spirituality: Practices that foster your sense of spirituality or faith, however you define that personally</td>
</tr>
<tr>
<td>Self-care: Treating yourself well, looking after your own health and wellbeing</td>
</tr>
<tr>
<td>Personal growth: Doing things to nurture your own development, knowledge, skills, ideas.</td>
</tr>
<tr>
<td>Recreation / Fun: Doing things to have fun, relax</td>
</tr>
<tr>
<td>Creativity: Doing things to express yourself in whatever medium of your choice</td>
</tr>
</tbody>
</table>

Now reflect on those values that you have identified as important to you and try to consider goals and actions within each of these areas.

Goals are more specific destinations that you will visit as you travel in your valued direction and actions are the steps you will take to travel. For example, if you chose the value of being a friendly colleague in your work as a health professional, one goal that might be in that direction is to encourage others to take a lunch break with you.

An action that leads in that direction could be to suggest to a colleague at the beginning of the day that you take a break together. Use the table below to consider how the values that you feel are important to you could be translated into goals and actions.

Try to consider goals and actions in each of the value areas that you wrote about on the previous page. Don’t be too concerned at this stage if it’s possible, or if it will be difficult, or even about if you can or will commit to these. Some of these you will already be doing, some may be new. At this stage, let yourself just think and dream and wish for what you would really want. We will deal with obstacles later!
<table>
<thead>
<tr>
<th>Value</th>
<th>Goal</th>
<th>Action</th>
</tr>
</thead>
</table>

All info contained in this document is adapted with permission from the RESTORE Online Project currently being developed and researched by Dr Anne Finucane (Marie Curie Hospice Edinburgh) and Dr David Gillanders (University of Edinburgh) - [http://dx.doi.org/10.12688/amrcopenres.13035.1](http://dx.doi.org/10.12688/amrcopenres.13035.1)
Worksheet Five: Barriers and how to deal with them

You may have noticed that once we set ourselves a goal or a direction, it’s quite likely that obstacles will appear! Sometimes these are obstacles in the world out there and sometimes they are obstacles that our own mind has generated. This worksheet helps you to track the barriers and how you deal with them. It’s part of our overall ‘building awareness’ skill set. If you find yourself blocked in your progress of actions, goals and values, try to write down the barrier, and how you responded to it. Try to identify the immediate (short term) and the longer-term consequences. Short term consequences are usually very powerful, even if the long-term consequences are undesirable. Tracking consequences in this way can help you to see which choices are effective and which need some work. There is an example completed for you, but you can use this for your own examples.

<table>
<thead>
<tr>
<th>ACTION or GOAL</th>
<th>BARRIER</th>
<th>What I did?</th>
<th>What happened next? SHORT TERM</th>
<th>What happened then? LONGER TERM</th>
<th>What could I do differently?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I wanted to eat more healthily</td>
<td>Was tired and late home so I couldn’t be bothered cooking</td>
<td>I put on a pizza from the freezer</td>
<td>Relief, less effort, easy tea, yummy pizza!</td>
<td>I felt bad, I felt like giving up, I’m not being as healthy as I want</td>
<td>Well, first not beat myself up: change is hard! I could cook on Sunday and freeze portions. I could use the slow cooker.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>ACTION or GOAL</th>
<th>BARRIER</th>
<th>What I did?</th>
<th>What happened next?</th>
<th>What happened then?</th>
<th>What could I do differently?</th>
</tr>
</thead>
</table>

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Worksheet Six: Active Self Care

In our previous research, some people said that they knew looking after yourself is important in this line of work, but they didn’t really know exactly what they did to do that. Other people said that they had very explicit activities that they do to unwind and look after themselves. Those that mentioned having an explicit self-care plan all spoke of how beneficial it was. This worksheet uses that knowledge to help you to be more explicit about activities that you can engage in that help you to deal effectively with the challenges of working in learning disability services.

The first section builds on your awareness skills by asking you to notice how you carry stress. For some people they might feel muscle tension, headaches, for others it might be that they feel less enthusiastic about things. Other people find their sleep pattern is the first thing to tell them they are stressed. Other people find they comfort eat.

The second section asks you to generate ideas about things you can do to actively look after yourself. These may be things you already do or have heard about other people doing or have thought about doing. When putting things in this box there is no expectation that you will do them – it is just to have a place to generate and park ideas.

The third section asks you to construct a plan for things that you will do regularly to help you to maintain your active self-care. This plan can be altered at any time, be flexible with it. Each box has some examples as suggestions, but you can make your own if these don’t suit you. Notice how the examples are as specific as possible.

The final section asks you to think about some of the barriers you might face. Using everything you have learned from this programme think about these barriers and what skills you have learned you can use to overcome these. Revisit this regularly, keep this document live.

| Signs that I am carrying stress: |
| (e.g. waking early in the morning and not able to get back to sleep, irritable with my children) |
| |

| Ideas about things I can do to respond effectively: |
| (e.g. going for a walk, doing a Joe Wickes exercise video, phoning a friend) |
| |
What will I do regularly to maintain my wellbeing:
(e.g. I will take an actual 30-minute lunch break, I will plan to do a family walk, I will go for a bike ride on Saturday, I will book a massage every other month, I will do yoga twice a week)

<table>
<thead>
<tr>
<th>What's the barrier:</th>
<th>What skills can I use to tackle these barriers?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hooked (What thoughts, feelings, sensations, urges, etc. are getting in the way?)</td>
<td>(e.g. mindfulness, defusion, self-compassion)</td>
</tr>
<tr>
<td>Avoiding discomfort (What sort of discomfort is likely to arise that I might want to avoid)</td>
<td></td>
</tr>
<tr>
<td>Remoteness from values (What values am I ignoring, neglecting, forgetting, leaving behind, or failing to act on if I opt out?)</td>
<td></td>
</tr>
</tbody>
</table>
**Doubtful goals** *(How realistic are my goals/actions? Do I have the necessary resources to complete them?)*
Appendix H – Participant information sheet

You are being invited to take part in a research study. Before you decide whether to take part, it is important for you to understand why this research is being done and what it will involve.

Please take time to read through the following information carefully and contact us if there is anything that is not clear, or if you would like more information. Please take time to decide whether you wish to take part in this research study.

What is the purpose of this study?
Evidence suggests that staff supporting individuals with an intellectual disability are at risk of burnout. This study therefore hopes to investigate whether completing an online intervention (consisting of watching online videos, practising the skills taught in the videos, and attending weekly discussion groups with others) can help to reducing psychological distress (e.g. anxiety and depression) and burnout in paid teaching staff in special schools and/or paid care staff in intellectual disability services.

This online intervention will be based on Acceptance and Commitment Therapy (ACT). ACT is a type of talking-based therapy. The goal of ACT is to help people live their lives based on what matters most to them, while supporting them to learn new ways of managing difficult thoughts and feelings.

Why have I been invited to take part?
You have been invited to take part in this study as you:
- Teach and/or provide direct support to individuals with a diagnosis of an intellectual disability (ID) who display challenging behaviour,
- have been working in your current role for at least 6 months,
- are over 18 years old.

Do I have to take part?
No. It is up to you to decide whether to take part. If you do decide to participate you will be given this information sheet to keep and will be asked to complete an online consent form. If you decide to take part, you are still free to withdraw from the study at any time without having to give a reason.
What will taking part in the study involve?

Read information sheet
- Take at least 24 hours to consider whether you want to take part

Decide if you want to take part
- Complete and return the contact details form via email to the person who discussed the study with you. These details will be used by the lead researcher to contact you.

Complete the consent form
- You will receive an email from the researchers with a link to an online consent form you will need to complete to indicate you are happy to take part.
- (Please take a screen shot of this form for your own records)

Complete the ‘baseline’ questionnaires
- Before the intervention begins you will receive weekly emails with links to complete an online questionnaire.
- You will be asked to complete this questionnaire once a week for between 3-6 weeks before the intervention begins.
What does the intervention look like?
The intervention will involve:

- **Completing weekly questionnaires.** These should take roughly 15 minutes to complete each week.
- **Watching weekly videos.** These will take 1 hour maximum to watch and will include information on acceptance and commitment therapy and explore new ways to manage difficult thoughts and feelings.
- **Completing homework exercises.** This will get you to practise some of the things you will learn in the videos. Homework tasks should take no more than 30 minutes to complete, and any homework tasks that require daily practising should take no more than 15 minutes a day.
Investigating the effectiveness of an online ACT-based intervention for staff working with people with intellectual disabilities in reducing staff psychological distress and burnout

- **Attending a weekly online discussion group.** This group will have a maximum of 10 people in it and will be facilitated by the lead researcher. These discussions will give you the opportunity to talk about the videos and things you are learning, along with giving you a chance to discuss how you are getting on with the homework tasks.

We recommend that you complete all four weeks of the intervention, but we are aware there may be things that come up which means you miss a session. You will still be able to take part in the study even if you miss some weeks of videos or some discussion groups. All data collected from the weeks you complete the intervention will be recorded and analysed as part of the research study where possible.

You can contribute as much or as little to the discussion groups as you feel comfortable. The groups are a confidential space where, by attending, everyone agrees that nothing that is spoken about within the group will be talked about outside of the group to maintain the privacy and confidentiality of all participants. The group session will not be recorded and nothing you say during these sessions will be used in the research. While we would encourage you to turn your cameras on during these sessions to help build a positive group atmosphere, this is not mandatory. The discussion groups are part of the intervention and as such should be attended. If you are unable to attend the groups one week, please contact the group facilitator (i.e. the lead researcher) to let them know. You will still be sent the remaining intervention videos and will still be invited to intend future group discussions even if you miss some, however evidence from other interventions suggest that there are benefits to a group intervention above a self-help only intervention (which is what would happen if you only watched the videos). It is therefore possible that by not attending the discussion groups, the intervention may be less likely to help you feel less distressed or burnt out.

You also do not have to complete any of the homework tasks, however we recommend that you do because the evidence from other acceptance and commitment therapy interventions suggest that you will get the most out of the intervention if you regularly practise the tools and techniques you will be learning.

**What are the possible risks of taking part?**
We do not believe there are any risks to you by taking part in this study, however we are aware that the time required to participate in the study may be an inconvenience.

While it is unlikely, it is possible that you may find some of the questions or topics covered in the questionnaires or videos to be upsetting. You can decide which questions you answer on the questionnaires, which videos you watch, which homework exercises you practise, and how much you participate in the group discussions. Should you feel in need of extra support, you are more than welcome to speak with the lead researcher at the end of your discussion group. We have also included details of other supports you can access at the end of this information sheet which may be helpful for you.
What are the possible benefits of taking part?
There may not be a direct benefit of taking part in this study; however, we hope that you might feel happier, less stressed or anxious, and less burnt out after you have completed the intervention.

How will we use information about you?
We will need to use information from you for this research project. This information will include your:

- Name
- Job title
- Workplace
- Email address
- Phone number

This information will be used to send you the study materials (links to the questionnaires, videos and discussion group meeting). The research team will use this information to do the research and to make sure that the research is being done properly. Only the research team will have access to this information, so people who do not need to know who you are will not be able to see your name or contact details.

When you fill out the weekly questionnaires, we will ask you to include your name on them. This is so that we can match up your responses each week. Once you have completed all the questionnaires, your responses will be transferred into an electronic database and anonymised. Once this information has been transferred, the questionnaires with your name attached will be securely deleted, along with your contact information. This means that once the information has been transferred into the database you will no longer be able to withdraw of the study as we will no longer be able to identify your responses. Due to this, you will have up to 72 hours after the final questionnaires are emailed to you to withdraw from the study. If you choose to withdraw from the study, all data we hold on you will be securely deleted when the request is received.

We will keep all information about you safe and secure. All electronic data will be entered into a password-protected computer file and stored on a university of Edinburgh password protected drive. Your contact information, consent form and questionnaire responses will be held in separate protected folders in order to minimise the risk of you being identified. All the data we collect will be electronic and no paper copies will be made.

Once our study has been concluded and the report written up for the lead researcher’s doctoral thesis coursework, we will provide written summary reports to everyone who requested this information. We will write our reports in a way that no-one can work out that you took part in the study. After this point any remaining contact details we have (i.e. email
addresses from participants who requested a summary of our results) will be securely deleted.

**What are your choices about how your information is used?**

- You can stop being part of the study at any time, without giving a reason, up until 72 hours after being emailed the follow-up questionnaires. After this point your data will have been anonymised and we will not be able to identify which responses came from you.
- We need to manage your records in specific ways for the research to be reliable. This means that we won’t be able to let you see or change the data we hold about you.

**Where can you find out more about how your information is used?**

You can find out more about how we use your information:

- At [https://www.ed.ac.uk/records-management/privacy-notice-research](https://www.ed.ac.uk/records-management/privacy-notice-research)
- by sending an email to the University’s Data Protection Officer (dpo@ed.ac.uk), or
- by contacting the research team at

The University of Edinburgh is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. The University of Edinburgh will keep a record of your consent form for 5 years. This will be stored securely in a password protected university shared drive. The university will also keep the anonymised data from the study for a minimum of 10 years, as per the university’s data protection protocol. Your anonymised data may be used in future ethically approved research.

**What will happen to the results of the study?**

The study will be written up as part of the lead researcher’s clinical psychology doctorate thesis. It will be submitted for publishing in a journal article and presented at an academic conference. You will not be identifiable in any published results. A summary of the findings will also be shared with all organisations who allowed us to recruit participants, again you will not be identifiable in these findings.

You can also request a copy of the study results by emailing the lead researcher. If you do this we will send a summary report to you via the email address you contact us with.

**Who is organising this research?**

This study has been organised by Stephanie Calderwood as part of her Doctorate in Clinical Psychology at the University of Edinburgh.
Who has reviewed this study?
The study has been reviewed and approved by the University of Edinburgh’s School of Health in Social Science Research Ethics Committee.

If you have any further questions about the study, please contact:
Stephanie Calderwood (Trainee Clinical Psychologist and Lead Researcher)
Email:

Dr Doug McConachie (Clinical Psychologist and Project Supervisor)
Email:

If you wish to contact someone who is unconnected to the study, please contact:
Dr Helen Sharpe (Research Lead for Clinical and Health Psychology and Programme Director PhD/MScR in Clinical and Health Psychology)
Address: The University of Edinburgh
Rm 2.8,
Doorway 6, Elsie Inglis Quad
Teviot Place
Edinburgh, EH8 9AG

If you wish to make a complaint about the study, please contact the University of Edinburgh:
The School of Health and Social Science has a robust procedure in place to deal effectively with complaints or concerns about research conduct. Complaints should be made by email to the Head of School hos.health@ed.ac.uk

Thank you for taking the time to read this information
Investigating the effectiveness of an online ACT-based intervention for staff working with people with intellectual disabilities in reducing staff psychological distress and burnout

**Additional Support Resources**

If at any point during the study you feel you need additional support, here are some resources you can access:

**Access Therapies Fife** – [https://www.accesstherapiesfife.scot.nhs.uk/](https://www.accesstherapiesfife.scot.nhs.uk/)

**Wellbeing Lothian** – [https://www.wellbeinglothian.scot/](https://www.wellbeinglothian.scot/)

**Breathing Space** – [https://breathingspace.scot/](https://breathingspace.scot/)

**Samaritians** – [https://www.samaritans.org/](https://www.samaritans.org/)

**National Wellbeing Helpline** – 0800 111 4191

*A compassionate and empathic listening service for all health and social care workers.*

The National Wellbeing Helpline is operated by NHS 24 on a 24/7 basis. Trained practitioners can provide a range of support including psychological first aid, advice, signposting to helpful resources, and onward referral to local services and additional support if required.
Appendix I – Participant consent form

*PLEASE TAKE A SCREENSHOT OF THIS FORM FOR YOUR RECORDS*

**Study Title:** Investigating the effectiveness of an online ACT based intervention for staff working with people with intellectual disabilities in reducing staff psychological distress and burnout

**Researcher’s name and contact details:**

- Stephanie Calderwood, Trainee Clinical Psychologist and Lead Researcher, University of Edinburgh
- Dr Doug McConachie, Clinical Psychologist and Project Supervisor, University of Edinburgh

If you wish to contact someone who is unconnected to the study, please contact:

Dr Helen Sharpe, Research Lead for Clinical and Health Psychology, and Programme Director PhD/MScR in Clinical and Health Psychology

Address: The University of Edinburgh
Rm 2.8, Doorway 6, Elsie Inglis Quad
Teviot Place
Edinburgh, EH8 9AG

**Participant Name:** _________________________________

Please tick box

1. I confirm that I have read and understood the Participant Information Sheet (Version 3 dated 05/12/2022) for the above study.

2. I have been given the opportunity to consider the information provided, ask questions and have had these questions answered to my satisfaction.
Investigating the effectiveness of an online ACT-based intervention for staff working with people with intellectual disabilities in reducing staff psychological distress and burnout

3. I understand that my participation is voluntary and that I can withdraw from the study at any time without having to give a reason. I do not need to take part in this study as part of my job and declining or withdrawing from the study will not negatively affect me or my employment in any way.

4. I understand that my participation and responses will be kept confidential, however this confidentiality may need to be broken if any significant safeguarding issues are disclosed (e.g. abuse or malpractice).

5. I understand that I have 72-hours after receiving the email to the follow-up questionnaire to withdraw from the study. After this point my data will have been anonymised and will no longer be able to be extracted.

6. I understand that the university will securely hold my consent information for up to 5 years; and my anonymised data will be stored for a minimum of 10 years and may be used in future ethically approved research.

7. I understand that relevant sections of my data collected during the study may be looked at by individuals from the Sponsor (University of Edinburgh), where it is relevant to my taking part in this research. I give permission for these individuals to have access to my data.

8. By ticking this box I agree to take part in the above study.
Appendix J – Participant contact details form

**Study Title:** Investigating the effectiveness of an online ACT based intervention for staff working with people with intellectual disabilities in reducing staff psychological distress and burnout.

If you have read over the participant information sheet and are interested in taking part in the above study, please complete the information below and email this form to Stephanie Calderwood at

(Note: If you agree to take part in this study your details will be stored securely, and this form will be destroyed once the study has ended, and written summary reports are distributed to those who requested this information. If you choose not to take part your details will be securely destroyed immediately).

Name:

_____________________________________________________

Job role:

_____________________________________________________

Workplace:

_____________________________________________________

**Phone number:** (your personal mobile would be most suitable in case we need to send you study notifications/reminder texts)

_____________________________________________________

**Email address:** (please choose the email address you would prefer all study correspondence to be sent to, e.g., personal email vs work email)

_____________________________________________________
Investigating the effectiveness of an online ACT-based intervention for staff working with people with intellectual disabilities in reducing staff psychological distress and burnout

**Researcher's name and contact details:**

Stephanie Calderwood  
*Trainee Clinical Psychologist and Lead Researcher*  
*University of Edinburgh*

Dr Doug McConachie  
*Clinical Psychologist and Project Supervisor*  
*University of Edinburgh*

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**If you wish to contact someone who is unconnected to the study, please contact:**

Dr Helen Sharpe  
*Research Lead for Clinical and Health Psychology, and Programme Director PhD/ MScR in Clinical and Health Psychology*

Address:  
The University of Edinburgh  
Rm 2.8, Doorway 6, Elsie Inglis Quad  
Teviot Place  
Edinburgh, EH8 9AG

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**THANK YOU**
Appendix K – Participant debrief sheet

What was the purpose of this study?
This study aimed to evaluate an online intervention for paid teaching and/or care staff working directly with individuals with an intellectual disability (also known as a learning disability). This online intervention was based on Acceptance and Commitment Therapy (ACT).

ACT is a type of talking-based therapy. The goal of ACT is to help people live their lives based on what matters most to them, while supporting them to learn new ways of managing difficult thoughts and feelings.

What did we hope to find?
We hoped that the results of our study would show that, after participants completed the online intervention, their self-reported levels of psychological distress and burnout would be lower than they were before.

What will happen to the results of the study?
The study will be written up as part of a clinical psychology doctorate thesis, will be submitted for publishing in a journal article, and presented at an academic conference. You will not be identifiable in any published results. A summary of the findings will also be shared with all organisations who allowed us to recruit participants, again you will not be identifiable in these findings.

You can also request a copy of the study results by emailing a member of the research team (details below). If you do this we will send a summary report to you via the email address you contact us with.

If you would like to receive a copy of the study results, please contact:
Stephanie Calderwood (Trainee Clinical Psychologist and Lead Researcher)
Email:

Dr Doug McConachie (Clinical Psychologist and Project Supervisor)
Email:

If you have any further questions about the study, please contact Stephanie Calderwood using the above email address.
Investigating the effectiveness of an online ACT-based intervention for staff working with people with intellectual disabilities in reducing staff psychological distress and burnout

If you wish to contact someone who is unconnected to the study, please contact:
Dr Helen Sharpe (Research Lead for Clinical and Health Psychology and Programme Director PhD/MScR in Clinical and Health Psychology)

Address: The University of Edinburgh
Rm 2.8,
Doorway 6, Elsie Inglis Quad
Teviot Place
Edinburgh, EH8 9AG

If you wish to make a complaint about the study, please contact the University of Edinburgh:
The School of Health and Social Science has a robust procedure in place to deal effectively with complaints or concerns about research conduct. Complaints should be made by email to the Head of School hos.health@ed.ac.uk

Thank you for taking part in this study!
Appendix L – Ethical approval
L.1 – University sponsorship letter

5th January 2022

Stephanie Calderwood
c/o Health in Social Science
University of Edinburgh

Dear Stephanie,

**Study Title:** Investigating the effectiveness of an online ACT-based intervention for staff working with people with intellectual disabilities in reducing staff psychological distress and burnout

**Sponsor number:** CAHSS2111/02

Under the requirements of the UK policy framework for health and social care research, the University of Edinburgh agrees in principle to act as Sponsor for this project. Sponsorship is subject to you obtaining institutional ethics for the project.

As Chief Investigator, you must ensure that the study does not commence until all applicable approvals have been obtained. Following receipt of all relevant approvals, you should ensure that any amendments to the project are notified to the Sponsor.

Yours sincerely,

Charlotte Smith

Research Governance Manager
L.2 – University ethical approval

If you are applying for amendments to a previously reviewed and processed project, please use the below form to detail the amendments you wish to make:

<table>
<thead>
<tr>
<th>AMENDMENT/S: REQUEST FOR APPROVAL – to be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would like to apply for the following amendments to this previously processed project which had generated a favourable opinion:</td>
</tr>
</tbody>
</table>

I would like to expand my recruitment pool from third sector intellectual/learning disability organisations across Fife and Lothian, to include third sector ID/LD organisations across the whole of the UK. I would also like to include a study advert/flyer which would be emailed to prospective organisations and participants to aid recruitment.

All other study details remain the same.

Amendment 2:
I would like to expand my recruitment pool to also include staff in special needs schools in Lothian and Fife, and to update my contact details form to include a section allowing participants to note down their manager’s contact details, in order to easily contact their manager to ask for permission to allocate time during work to participate in the intervention.

Will this require Local Authority Approval? If so we will need to see the email too that will be sent to the local authorities and schools asking for their staff to take part.

Approval from the local authorities (Edinburgh City and Fife) is now attached.

Supervisor/PI Signature: ____________________________

Student signature: ____________________________

Date: 31/10/2022

CONCLUSION TO ETHICAL REVIEW OF AMENDMENT – to be completed by Ethics Lead
Additional information is required related to:

**Amendment 2:**
I would like to expand my recruitment pool to also include staff in special needs schools in Lothian and Fife, and to update my contact details form to include a section allowing participants to note down their manager’s contact details, in order to easily contact their manager to ask for permission to allocate time during work to participate in the intervention.

**Will this require Local Authority Approval?** Will the schools being approached be run by the local authority or are they independent? If so we will need to see the email too that will be sent to the local authorities and schools asking for their staff to take part.

**Approval from the local authorities (Edinburgh City and Fife) is now attached.**

This is a different participant group so will this not cause some changes (albeit minor) in the participant info sheet?

**Participant information sheet and debrief sheets have been updated to include teaching staff as participants and a second flyer has been created.**

Also line managers contact details are going to be collected. Are these contact details in the public domain? Will managers be asked if their details can be collected in the first instance when organisations are approached?

**Due to the practical difficulties obtaining consent from managers to contact them, all mention of the option of informing managers have been removed from the forms.**

The applicant’s response to our request for further clarification or changes has now satisfied the requirements for ethical practice and the application has therefore been given a favourable opinion.

**Signature:**

Position: Lecturer in Applied Psychology/Ethics and Integrity Lead

**Date: 16/12/2022**

NOTE: Once reviewed please include the page on which this box appears as a formal document demonstrating that favourable opinion has been provided for this project (for example as an attachment to MSc dissertations).
L.3 – Edinburgh City Council approval

Stephanie Calderwood
Trainee Clinical Psychologist
Department of Clinical and Health Psychology
School of Health in Social Science
University of Edinburgh
Teviot Place
EH8 9AG

Date 09/11/22

Dear Stephanie,

I am writing in response to your application requesting permission to undertake research in schools in The City of Edinburgh.

Your request has been considered, and I am pleased to inform you that you have been given permission in principle to undertake your research. I must stress that it is the policy of this Authority to leave the final decision about participation in research projects of this kind to Head Teachers and their staff, so that approval in principle does not oblige any particular establishment to take part.

I request that you forward a copy of your completed findings to me when they become available. In this case an electronic summary of your thesis would be preferred. Your work may be of interest to a number of staff in the Communities and Families Department.

I would like to thank you for contacting the Communities and Families Department about your work, and wish you every success in the completion of your project.

Yours sincerely

Martin Gemmell
Principal Psychologist

Psychological Services, Communities and Families
Level 1.3 Waverley Court, 4 East Market Street, Edinburgh EH8 8BG

Tel 0131 469 2800 E-mail anne.fitzpatrick@ea.edin.sch.uk

[Institutional logo] INVESTORS IN PEOPLE | Gold
Dear Stephanie

**Online Staff Wellbeing Study**

Thank you for your request for permission to undertake the above research in Fife schools.

Your request has been considered by our Research and Development Group and on their advice I am pleased to grant approval for your study.

The five schools which will be involved in your study, subject to the agreement of the Headteachers are: Kilmarnock, Rosslyn, John Fergus, Calaiswood, Hyndhead.

Please go ahead and make contact with the identified school(s). Final decisions regarding participation rest with the Headteacher.

I wish you all the best with your project work. When your research is complete, please forward to a copy of your completed report, or an executive summary, to Vivienne Sutherland at or to Chris Hamilton at

Yours sincerely

Shelagh Maclean
Head of Education & Children’s Services

Cc: Vivienne Sutherland (Principal Psychologist)  
    Chris Hamilton (Educational Psychologist)
Appendix M – Journal submission guidelines (JCBS)

Taken from: https://www.elsevier.com/journals/journal-of-contextual-behavioral-science/2212-1447/guide-for-authors

Types of article

All manuscripts must clearly and explicitly be of relevance to CBS. You may find the JCBS article "Report of the ACBS Task Force on the strategies and tactics of contextual behavioral science research" helpful in assessing whether your manuscript is likely to be of interest to readers of this journal.

Articles should fall into one of six categories:
1. Empirical research (up to 6000 words)
2. Brief empirical reports (up to 3000 words)
3. Review articles (up to 10,000 words)
4. Conceptual articles (up to 6000 words)
5. Practical innovations (up to 6000 words)
6. Commentaries (up to 3000 words)
7. Registered reports (see instructions below)

Word limits exclude references, tables and figures but include the abstract

1. Empirical research. JCBS welcomes manuscripts across a breadth of domains from basic behavioral science to clinical trials. Potential methodologies include but are not limited to randomized controlled trials, single case experimental designs, cross-sectional and prospective cohort studies, mixed-methods designs, and laboratory-based studies. For randomized clinical trials, JCBS requires that submissions follow CONSORT guidelines (http://www.consort-statement.org). Papers reporting null findings are also welcome if their methodology is sound and their power sufficient.

2. Brief empirical reports. Manuscripts may report preliminary, provocative or replicated results. Empirically sound methodology and adequate power remain important considerations.

3. Review articles. Manuscripts reviewing a wide range of topics are encouraged as long as their content is directly relevant to CBS. Systematic reviews and meta-analyses are particularly welcome. For meta-analyses and systematic reviews, JCBS requires submissions follow PRISMA guidelines (http://www.prisma-statement.org/).

4. Conceptual articles. Manuscripts should address conceptual or theoretical issues relevant to CBS. This may include papers that discuss relevant philosophical assumptions and traditions, or conceptual papers which explore aspects of or inconsistencies in contextual behavioral theory and science.

5. Practical innovations. Manuscripts in this section share innovative and practically useful descriptions of applications of CBS to a given problem area based on real world implementation, with preliminary data supporting the You may find the JCBS
article directly (preferred) or indirectly through relevant conceptual and empirical references. Submissions are evaluated based on the degree to which they 1) provide information that is directly useful to applied work, 2) provide innovative information (e.g., a novel protocol, population, issue), 3) are based on real world implementation/practice, and 4) are based on preliminary data reported in the manuscript, or a strong link to existing conceptual/empirical literature. Submissions that report empirical data should still primarily emphasize detailed descriptions of the intervention/training protocol and/or of the applied relevance of the literature. Submissions that report empirical data should still primarily emphasize detailed descriptions of the intervention/training protocol and/or of the applied relevance of the findings (e.g., clarifying and problem solving how to address an applied challenge identified in the study).

6. Commentaries. We will consider commentaries on other manuscripts that have been recently published in JCBS. Commentaries will be subjected to peer-review and will be held to the same standards of providing a notable contribution to our field to warrant publication. Authors will typically be informed when a commentary has been submitted on a manuscript they have published and will be given the opportunity to respond in print if the commentary is published. We encourage authors to contact the editor-in-chief prior to preparing a commentary to determine potential suitability for JCBS.

7. Registered reports. Registered Reports are a form of empirical article in which the methods and proposed analyses are pre-registered and reviewed by JCBS prior to research being conducted. This format is meant to encourage researchers to conduct research that is higher risk but addresses key issues or concerns of CBS in line with the Recommendations of the ACBS Task Force Report on the Strategies and Tactics of CBS Research (https://www.sciencedirect.com/science/article/pii/S2212144721000302). Further instructions on Registered Reports, including author guidelines and the submission process, can be downloaded here ‘JCBS Author Guidelines for Registered Reports.’

The Journal welcomes suggestions for Special Issues. Proposals for a themed Special Issue should be sent to the Editor-in-Chief, Michael Levin at , and should include suggested Guest Editors, a proposed call-for-papers, 6-10 example authors and topics that would fit the special issue, a proposed timeline for submission, peer-reviewing, revision and publication. All manuscripts in a special issue will be subject to the normal process of peer-review.

A special issue focuses on a specific area of research that has a broad appeal and falls within the aims and scope of the journal. The Guest Editor(s) handle the peer review process and the special issues should be reviewed by no fewer than two independent experts. The Editor(s) is responsible for the final decision regarding acceptance or rejection of articles.

Guest Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the guest editor has an interest. Any such submission is subject to all of the journal’s usual procedures, with peer review handled independently of the relevant editor and their research groups.
Preparation

Queries

For questions about the editorial process (including the status of manuscripts under review) or for technical support on submissions, please visit our Support Center.

Peer review

This journal operates a double anonymized review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor’s decision is final. Editors are not involved in decisions about papers which they have written themselves or have been written by family members or colleagues or which relate to products or services in which the editor has an interest. Any such submission is subject to all of the journal's usual procedures, with peer review handled independently of the relevant editor and their research groups. More information on types of peer review.

Double anonymized review

This journal uses double anonymized review, which means the identities of the authors are concealed from the reviewers, and vice versa. More information is available on our website. To facilitate this, please include the following separately:

**Title page (with author details):** This should include the title, authors' names, affiliations, acknowledgements and funding information, and a complete address for the corresponding author including an e-mail address.

**Cover letter (with author details):** This should include unanonymized registration details and note where to access this information (such as trial registration number). For authors that have a compelling reason, this should include justification for a registration exception or registration deviations.

It is expected that all authors who publish in the Journal of Contextual Behavioral Science will share data upon reasonable request. Therefore, we ask authors who do not already have their data openly available to the public to include an author note indicating "Data is available upon reasonable request.". Authors can request to leave this note out if they can provide an adequately strong justification for not doing so in the cover letter.

**Anonymized manuscript (no author details):** The main body of the paper (including the references, figures, and tables) should be anonymized during the review process (i.e., no identifying information, such as the authors' names or affiliations). When available, pre-registration information or shared data identifiers should also be listed in the Method section without identifiers. We recommend using text such as "The study was pre-registered at ______________ (insert name of repository, trial identification number and/or link to study registration)." For those with deviations...
from the registration, author should also note this in the methods section. All anonymized information in the manuscript body will be asked to be un anonymized upon final acceptance of the submission.

In addition, you can link to relevant data or entities through identifiers within the text of your cover letter, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

**Use of word processing software**

It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

**Article structure**

**Subdivision - unnumbered sections**

Divide your article into clearly defined sections. Each subsection is given a brief heading. Each heading should appear on its own separate line. Subsections should be used as much as possible when cross-referencing text: refer to the subsection by heading as opposed to simply 'the text'.

**Appendices**

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

**Essential title page information**

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
- **Corresponding author.** Clearly indicate who will handle correspondence at all
stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. **Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.**

- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

### Highlights

Highlights are mandatory for this journal as they help increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example **Highlights**.

Highlights should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

### Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

### Keywords

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

### Research Data

This journal encourages, but does not require, you to share data that supports your research publication in an appropriate data repository, and enables you to interlink the data with your published articles. If you are sharing data, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation.

For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.
Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal encourages, but does not require, you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project whenever possible.

It is expected that all authors who publish in the Journal of Contextual Behavioral Science will share data upon reasonable request. Therefore, we ask authors who do not already have their data openly available to the public to include an author note indicating "Data is available upon reasonable request.". Authors can request to leave this note out if they can provide an adequately strong justification for not doing so in the cover letter.

Data linking

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect. Another data repository option is Open Science Framework (OSF). More information on how to share data through OSF is available. In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

Mendeley Data

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online. For more information, visit the Mendeley Data for journals page.

Reporting Standards

This journal follows reporting standards for key types of research, including clinical trials (CONSORT and its extensions) and meta-analyses (PRISMA) as outlined in the Equator website (https://www.equator-network.org/reporting-guidelines/). For randomized clinical trials, JCBS requires that submissions follow CONSORT guidelines (http://www.consort-statement.org). For meta-analyses and systematic reviews, JCBS requires submissions follow PRISMA guidelines (http://www.prisma-statement.org/). JCBS recommends that authors follow similar guidelines for other...
study designs such as observational studies (STROBE) and qualitative studies (SRQR), which are available at https://www.equator-network.org/reporting-guidelines/.

Math formulae
Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes
Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

Artwork

Electronic artwork
General points
• Make sure you use uniform lettering and sizing of your original artwork.
• Embed the used fonts if the application provides that option.
• Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Provide captions to illustrations separately.
• Size the illustrations close to the desired dimensions of the published version.
• Submit each illustration as a separate file.
• Ensure that color images are accessible to all, including those with impaired color vision.

A detailed guide on electronic artwork is available.
You are urged to visit this site; some excerpts from the detailed information are given here.

Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply ‘as is’ in the native document format. Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please ‘Save as’ or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
EPS (or PDF): Vector drawings, embed all used fonts.
TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

**Please do not:**
- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
- Supply files that are too low in resolution;
- Submit graphics that are disproportionately large for the content.

**Color artwork**
Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF) or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) in addition to color reproduction in print. [Further information on the preparation of electronic artwork.](#)

**Figure captions**
Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

**Tables**
Please submit tables as editable text and not as images. In accordance with APA style, tables should be placed on separate page(s) at the end of the manuscript. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

**References**

**Citation in text**
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

**Web references**
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.
**Data references**
This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

**Preprint references**
Where a preprint has subsequently become available as a peer-reviewed publication, the formal publication should be used as the reference. If there are preprints that are central to your work or that cover crucial developments in the topic, but are not yet formally published, these may be referenced. Preprints should be clearly marked as such, for example by including the word preprint, or the name of the preprint server, as part of the reference. The preprint DOI should also be provided.

**References in a special issue**
Please ensure that the words ‘this issue’ are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

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Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley. Using citation plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

**Reference style**
**Text:** Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Seventh Edition, ISBN 978-1-4338-3215-4, copies of which may be ordered online.

**List:** references should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

**Examples:**
Reference to a journal publication:
Reference to a journal publication with an article number:

Reference to a book:

Reference to a chapter in an edited book:

Reference to a website:

Reference to a dataset:

Reference to a conference paper or poster presentation:

Reference to software:

**Reference Style**

*Text:* Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, Seventh Edition, ISBN 978-1-4338-3215-4, copies of which may be ordered online or APA Order Dept., P.O.B. 2710, Hyattsville, MD 20784, USA or APA, 3 Henrietta Street, London, WC3E 8LU, UK.

*List:* references should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

*Examples:*
Reference to a journal publication:

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Reference to a website:

Reference to a dataset:

Reference to a conference paper or poster presentation:

Video

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Appendix N – Journal submission guidelines (JARID)

Taken from: https://onlinelibrary.wiley.com/page/journal/14683148/homepage/forauthors.html

1. SUBMISSION

Authors should kindly note that submission implies that the content has not been published or submitted for publication elsewhere except as a brief abstract in the proceedings of a scientific meeting or symposium.

Once the submission materials have been prepared in accordance with the Author Guidelines, new submissions should be made via the Research Exchange submission portal: https://wiley.atyponrex.com/journal/JAR. Should your manuscript proceed to the revision stage, you will be directed to make your revisions via the same submission portal. You may check the status of your submission at anytime by logging in to submission.wiley.com and clicking the "My Submissions" button. For technical help with the submission system, please review our FAQs or contact submissionhelp@wiley.com.

Wiley Publishing Networks

This journal participates in the Wiley Special Education publishing network and the Wiley Developmental Science Publishing Network. This exciting collaboration amongst our Special Education and Developmental journals simplifies and speeds up the publication process, helping authors find the right home for their research. At the Editors’ judgement, suitable papers not accepted by one journal may be recommended for referral to another journal(s) in the network. Authors decide whether to accept the referral, with the option to transfer their paper with or without revisions. Once the referral is accepted, submission happens automatically, along with any previous reviewer reports, thereby relieving pressure on the peer review process. While a transfer does not guarantee acceptance, it is more likely to lead to a successful outcome for authors by helping them to find a route to publication quickly and easily.

2. AIMS AND SCOPE

JARID is an international, peer-reviewed journal which draws together findings derived from original applied research in intellectual disabilities. The journal is an important forum for the dissemination of ideas to promote valued lifestyles for people with intellectual disabilities. It reports on research from the UK and overseas by authors from all relevant professional disciplines. It is aimed at an international, multi-disciplinary readership.

In order for a paper to be considered for publication, it must be about people with intellectual disabilities. Manuscripts which focus upon autism will be considered only when the focus is also upon intellectual disabilities. Papers which focus upon autism and exclude people with intellectual disabilities will not be considered.

The topics it covers include community living, quality of life, challenging behaviour, communication, sexuality, medication, ageing, supported employment, family issues, mental
health, physical health, autism, economic issues, social networks, staff stress, staff training, epidemiology and service provision.

Theoretical papers are also considered provided the implications for therapeutic action or enhancing quality of life are clear. Both quantitative and qualitative methodologies are welcomed. All original and review articles continue to undergo a rigorous, peer-refereeing process.

3. MANUSCRIPT CATEGORIES AND REQUIREMENTS

Original Articles, including Clinical Trials (see guidance within section 5), Review Articles and Brief Reports are accepted by the Journal. Theoretical Papers are also considered, provided the implications for therapeutic action or enhancing quality of life are clear. Both quantitative and qualitative methodologies are welcomed. Articles are accepted for publication only at the discretion of the Editor. Authors who are submitting original articles where qualitative methods have been used must ensure that their choice of method is well justified and issues relating to methodological rigor are effectively addressed.

Articles and Theoretical Papers should not exceed 6000 words; Review Articles should not exceed 7000 words; Brief Reports should not exceed 2000 words.

All word limits are inclusive of the abstract. References, Words in Tables, Captions/Legends, Figure and Figure captions/legends are excluded from the word limits.

Please note that papers submitted for Special Issue volumes should also not exceed 6000 words.

As of December 2019, JARID no longer accepts Book Reviews.

4. PREPARING THE SUBMISSION

Use of Language

The language used to describe disability differs across countries, cultures and disciplinary fields, and continues to evolve. All manuscripts submitted to JARID must use language that promotes the value of all people as full members of our shared society. Pejorative language inclusive of euphemisms must not be used. For JARID this includes the use of older language that has been used to describe people with intellectual disabilities such as "retarded", "special needs", "disease", "handicapped", or "mentally handicapped". Using any terms which are offensive, or patronising may lead to rejection of your submitted manuscript.

JARID recommends using person-first and/or identity-first language thoughtfully and appropriately. For example, the language used to describe both people with intellectual disabilities and autistic people has evolved based on recent advocacy efforts. When referring to people with autism, it is acceptable to use either identity-first language (e.g., "autistic people") or person-first language (e.g., people with autism"), while identity-first language is not used to
describe people with intellectual disabilities, where person-first language is preferred. Thus, people with intellectual disabilities should be referred to as people with intellectual disabilities.

We have consulted with over 40 self-advocates through Learning Disability England which included the North West Self-Advocacy Group, as well as Self-Advocacy Together and asked them what language we should use when writing about people with intellectual disabilities.

People with intellectual disabilities said that they do not like to be referred to by acronyms or abbreviations. Authors must therefore not use an abbreviation to describe intellectual disabilities such as “ID” or “LD”. Instead, use person-first language such as children, teenagers, adults, or people with intellectual disabilities, avoiding acronyms or abbreviations.

The terms “learning disabilities” and “learning difficulties”, though used in some countries to refer to people with intellectual disabilities, can cause confusion among readers. These terms are not used by the journal to refer to people with intellectual disabilities. Authors must only use the term “learning disabilities or difficulties” where this refers to a specific learning disability/disorder – such as a specific learning difficulty in reading, written expression or mathematics. If “learning disabilities” or “learning difficulties” are used, authors must not use an abbreviation.

Free Format Submission

Journal of Applied Research in Intellectual Disabilities now offers Free Format submission for a simplified and streamlined submission process. Before you submit, you will need:

- Your manuscript: this should be an editable file including text, figures, and tables, or separate files – whichever you prefer. All required sections should be contained in your manuscript, including abstract, introduction, methods, results, discussion, and conclusions. Figures and tables should have legends. Figures should be uploaded in the highest resolution possible. References may be submitted in any style or format, as long as it is consistent throughout the manuscript. Supporting information should be submitted in separate files. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers, and the editorial office will send it back to you for revision. Your manuscript may also be sent back to you for revision if the quality of English language is poor.
- An ORCID ID, freely available at https://orcid.org. (Why is this important? Your article, if accepted and published, will be attached to your ORCID profile. Institutions and funders are increasingly requiring authors to have ORCID IDs.)
- The title page of the manuscript, including:
  o Your co-author details, including affiliation and email address. (Why is this important? We need to keep all co-authors informed of the outcome of the peer review process.)
  o Statements relating to our ethics and integrity policies, which may include any of the following (Why are these important? We need to uphold rigorous ethical standards for the research we consider for publication):
    ▪ data availability statement
    ▪ funding statement
Parts of the Manuscript

Submissions via the new Research Exchange portal can be uploaded either as a single document (containing the main text, tables and figures), or with figures and tables provided as separate files. Should your manuscript reach revision stage, figures and tables must be provided as separate files. The main manuscript file can be submitted in Microsoft Word (.doc or .docx) or LaTeX (.tex) formats.

If submitting your manuscript file in LaTeX format via Research Exchange, select the file designation "Main Document - LaTeX .tex File" on upload. When submitting a LaTeX Main Document, you must also provide a PDF version of the manuscript for Peer Review. Please upload this file as "Main Document - LaTeX PDF." All supporting files that are referred to in the LaTeX Main Document should be uploaded as a "LaTeX Supplementary File."

Cover Letters and Conflict of Interest statements may be provided as separate files, including in the manuscript, or provided as free text in the submission system. Please note, a cover letter is a submission requirement.

A statement of funding (including grant numbers, if applicable) should be included in the "Acknowledgements" section of your manuscript.

Title page

The title page should contain:
i. A short informative title that contains the major key words. The title should not contain abbreviations (see Wiley's best practice SEO tips);
ii. A short running title of less than 50 characters;
iii. The full names of the authors;
iv. The author's institutional affiliations where the work was conducted, with a footnote for the author's present address if different from where the work was conducted;
v. Acknowledgments.

Authorship

On initial submission, the submitting author will be prompted to provide the email address and country for all contributing authors.

The Research Exchange submission system will extract listed affiliations from the manuscript and then ask the submitting author to verify each author's affiliation institution(s). Authors are encouraged to include the complete affiliation addresses in the manuscript (Institution Name,
Country, Department Name, Institution City, and Post Code). When verifying their institution, authors will also be asked to locate their base institution only (not necessarily the department or school).

Please refer to the journal’s authorship policy in the Editorial Policies and Ethical Considerations section for details on eligibility for author listing.

Acknowledgments
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Conflict of Interest Statement
Authors will be asked to provide a conflict of interest statement during the submission process. For details on what to include in this section, see the section ‘Conflict of Interest’ in the Editorial Policies and Ethical Considerations section below. Submitting authors should ensure they liaise with all co-authors to confirm agreement with the final statement.

Main Text File
As papers are double-blind peer reviewed the main text file should not include any information that might identify the authors. The main text file should be presented in the following order:

i. Title, abstract and key words;
ii. Main text;
iii. References;
iv. Tables (each table complete with title and footnotes);
v. Figure legends;
vi. Appendices (if relevant).

Figures and supporting/supplemental information should be supplied as separate files. For more information on preparing supporting/supplemental information, click here.

Abstract
All papers should have a structured abstract (maximum 150 words) as follows: Background, Method, Results, and Conclusions. The abstract should provide an outline of the research questions, the design, essential findings and main conclusions of the study. We kindly request that authors place the abstract and title at the beginning of the main manuscript document.

Lay Summary
Please provide 3 or 4 bullet points summarizing the main finding of your work, the impact of it for people with intellectual disabilities and for the research community.

Keywords
Please provide up to six Keywords to aid indexing.

References
References should be prepared according to the Publication Manual of the American Psychological Association (6th edition). This means in text citations should follow the author-date
method whereby the author's last name and the year of publication for the source should appear in the text, for example, (Jones, 1998). The complete reference list should appear alphabetically by name at the end of the paper.

A sample of the most common entries in reference lists appears below. For more information about APA referencing style, please refer to the APA FAQ. Note that for journal articles, issue numbers are not included unless each issue in the volume begins with page one, and a DOI should be provided for all references where available.

**Journal article**


**Book**

Bradley-Johnson, S. (1994). *Psychoeducational assessment of students who are visually impaired or blind: Infancy through high school* (2nd ed.). Austin, TX: Pro-ed.

**Internet Document**


**Tables**

Tables should be self-contained and complement, not duplicate, information contained in the text. They should be supplied as editable files, not pasted as images. Legends should be concise but comprehensive â€“ the table, legend, and footnotes must be understandable without reference to the text. All abbreviations must be defined in footnotes. Footnote symbols: †, ‡, §, ¶, should be used (in that order) and *, **, *** should be reserved for P-values. Statistical measures such as SD or SEM should be identified in the headings.

**Figure Legends**

Legends should be concise but comprehensive – the figure and its legend must be understandable without reference to the text. Include definitions of any symbols used and define/explain all abbreviations and units of measurement.

**Figures**

Although authors are encouraged to send the highest-quality figures possible, for peer-review purposes, a wide variety of formats, sizes, and resolutions are accepted.

**Click here** for the basic figure requirements for figures submitted with manuscripts for initial peer review, as well as the more detailed post-acceptance figure requirements.

**Additional Files**
Appendices
Appendices will be published after the references. For submission they should be supplied as separate files but referred to in the text.

Supporting/Supplemental Information
Supporting/Supplemental information is information that is not essential to the article, but provides greater depth and background. It is hosted online and appears without editing or typesetting. It may include tables, figures, videos, datasets, etc. Click here for Wiley’s FAQs on supporting/supplemental information.

Note: if data, scripts, or other artefacts used to generate the analyses presented in the paper are available via a publicly available data repository, authors should include a reference to the location of the material within their paper.

General Style Points

The following points provide general advice on formatting and style.

- Spacing: Manuscripts should be double spaced with a wide margin.
- Abbreviations: In general, terms should not be abbreviated unless they are used repeatedly and the abbreviation is helpful to the reader. Initially, use the word in full, followed by the abbreviation in parentheses. Thereafter use the abbreviation only.
- Units of measurement: Measurements should be given in SI or SI-derived units. Visit the Bureau International des Poids et Mesures (BIPM) website for more information about SI units.
- Numbers: numbers under 10 are spelt out, except for: measurements with a unit (8mmol/l); age (6 weeks old), or lists with other numbers (11 dogs, 9 cats, 4 gerbils).
- Trade Names: Chemical substances should be referred to by the generic name only. Trade names should not be used. Drugs should be referred to by their generic names. If proprietary drugs have been used in the study, refer to these by their generic name, mentioning the proprietary name and the name and location of the manufacturer in parentheses.

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Manuscript Preparation Tips: Wiley has a range of resources for authors preparing manuscripts for submission available here. In particular, authors may benefit from referring to Wiley’s best practice tips on Writing for Search Engine Optimization.

Article Preparation Support
Wiley Editing Services offers expert help with English Language Editing, as well as translation, manuscript formatting, figure illustration, figure formatting, and graphical abstract design â€“ so you can submit your manuscript with confidence.

Also, check out our resources for Preparing Your Article for general guidance about writing and preparing your manuscript.

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A video abstract can be a quick way to make the message of your research accessible to a much
larger audience. Wiley and its partner Research Square offer a service of professionally produced video abstracts, available to authors of articles accepted in this journal. You can learn more about it by clicking here. If you have any questions, please direct them to videoabstracts@wiley.com.