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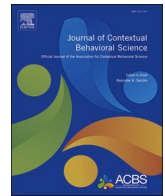
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## Workplace training based on the ACT Matrix for Ugandan hospital staff: A feasibility and acceptability trial

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### ABSTRACT

Similar to other low- and middle-income countries (LMICs) in Africa, workers in Uganda have limited access to evidence-based workplace mental health promotion programs. This pilot trial assesses the feasibility, acceptability, and cultural suitability of implementing and evaluating training derived from acceptance and commitment therapy (ACT) among Ugandan healthcare staff. A sample of 16 staff (primarily nurses and midwives) employed at a hospital in Kampala participated in four group sessions of training using the ACT Matrix, and completed pre- and post-intervention measures. The program's acceptability was assessed via the multidimensional Theoretical Framework of Acceptability. In addition, a subgroup of 7 participants provided qualitative data during a focus group immediately after completing the training. Despite reported challenges surrounding the timing of sessions, the ACT Matrix was rated as an acceptable, culturally relevant, and satisfying training approach in this context. Qualitative reports further suggested that participating staff experienced benefits across different life areas. Participants revealed no issues with English language psychometric instruments commonly used to evaluate ACT interventions, including prominent markers of perceived stress, well-being, and psychological flexibility/inflexibility. Positively framed measures of well-being and psychological flexibility exhibited promising signs of short-term change sensitivity in response to the ACT Matrix. Taken together, these quantitative and qualitative data signal that it is feasible and appropriate to progress to a next stage of intervention research, aimed at examining the effectiveness of workplace ACT Matrix training with similar groups of healthcare staff in Uganda.

### 1. Introduction

Healthcare workers are central to the functioning of health care systems (Anand & Bärnighausen, 2012). According to the World Health Organization (WHO, 2025), the global median number of health workers currently stands at 13 per 100,000 people, with critical shortages found in Low- and Middle-Income Countries (LMICs). Similar to colleagues in other LMICs, healthcare workers in Uganda are required to serve their communities in a context of human resource constraints and high workloads (Dubale et al., 2019; Dugani et al., 2018; Kabunga et al., 2024). In the absence of the occupational health initiatives that are common in wealthier countries, such challenges might elevate risk of mental health problems (e.g., anxiety, depression, and burnout), placing

further strain on LMIC health services (Kabunga & Kihoro, 2014; Nabirye et al., 2011; WHO, 2024).

There is wider interest in identifying ways to tackle low-intensity mental health problems among Uganda's working population. Estimates suggest that around 1 in 4 working age Ugandans experience low-intensity levels of anxiety and depression, which often remain untreated (Opio et al., 2022). Low treatment rates have been attributed to various sociocultural factors, including stigma associated with addressing mental health difficulties, religious and cultural beliefs, limited mental health funding often diverted to treating major psychiatric disorders (e.g., inpatient facilities), and lack of affordable access to mental health professionals (Asiimwe et al., 2023). Increasing access to mental health promotion programs in the workplace might help to overcome some of

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these barriers. For example, by offering workplace programs as well-being skills training rather than stress-reduction or therapy (to reduce stigma); and opening access to all interested members of a workforce, rather than restricting access to individuals reporting a clinical level of psychological ill-health.

Among occupational health initiatives implemented in Western countries, there has been interest in programs derived from *acceptance and commitment therapy* (ACT; Flaxman & Bond, 2006; Unruh et al., 2022). Similar to ACT in other settings, ACT's workplace applications aim to increase psychological flexibility, defined as "the ability to non-judgmentally observe and be open to inner experiences in the present moment, while engaging in behaviors consistent with freely chosen values" (Ong & Eustis, 2023, p. 169). ACT cultivates psychological flexibility by targeting six interrelated subprocesses: *contact with the present moment*, *self-as-context*, *acceptance*, *defusion*, *values*, and *committed action* (Hayes et al., 2006). Reviews have indicated that workplace ACT programs are often effective for reducing perceived stress and psychological distress and for cultivating psychological flexibility skills (Prudenzi et al., 2021; Rad, Prudenzi, Zernerova, Gerson, & Flaxman, 2025; Reeve et al., 2018; Towey-Swift et al., 2023; Unruh et al., 2022). However, this area of research and practice has mainly benefited workers in wealthy industrialized countries (Hoosain et al., 2023). It remains uncertain whether the same workplace ACT approach might be culturally applicable, and evaluated using similar measures, among workers in lower-income African countries (such as Uganda).

Some features of ACT might support its translation into workplace programs suitable for the Ugandan context. First, ACT is transdiagnostic, increasing applicability across a range of individuals and cultural contexts (White et al., 2017). Second, ACT is skills-based, supporting adaptation into group or online training courses (Flaxman et al., 2023). Third, workplace ACT programs can be relatively brief, an advantage for implementation in pressured and under-resourced occupational contexts (e.g., among frontline healthcare staff). Fourth, workplace ACT programs can be manualized and potentially delivered by a wider range of professionals than is possible with clinical interventions (e.g., health extension workers, internal trainers). In line with a mission of CBS and global mental health, this feature could eventually be harnessed to increase affordability and scalability of ACT's workplace applications (Geda et al., 2021; White et al., 2017).

A recent social validity study involving mental health professionals suggested that a workplace ACT approach utilized in the UK might be applicable in Uganda (Musanje et al., 2024). The local professionals highlighted the "self-management" philosophy underpinning such training as appealing to Ugandans. They also identified potential utility of the ACT Matrix (Polk et al., 2016), which has become a central training tool in applications of ACT in UK workplaces, and has been evaluated among educational staff in the US (Diaz et al., 2025; Flaxman et al., 2023; Paliliunas et al., 2022). Although this social validity research suggested that ACT Matrix training might be culturally applicable in Ugandan workplaces, this was from the viewpoint of professionals in positions to deliver such training, and who contributed by reviewing a manual for trainers. Before moving towards implementation or larger research trials in Ugandan workplaces, it is important to assess the feasibility and acceptability of delivering this type of ACT program with representative samples of end-users (i.e., staff in Ugandan organizations identified as potential beneficiaries of mental health promotion).

Accordingly, the goal of the current pilot study is to assess the feasibility of conducting future implementations and empirical trials of ACT Matrix programs among healthcare staff in Uganda. Utilizing a combination of quantitative and qualitative methods, we pursue five primary objectives: 1) gauge the practicality of recruiting nurses and midwives from an urban hospital in Uganda for in-person workplace ACT Matrix training; 2) document retention of participants across four weekly sessions of ACT Matrix training; 3) assess multiple domains of acceptability of ACT Matrix training among Ugandan hospital staff; 4)

assess participants' level of satisfaction with this type of training; and 5) gather participants' perceptions of the fit of workplace ACT Matrix training with Ugandan culture. Our secondary objective is to assess the contextual applicability and response sensitivity of prominent stress, well-being, and psychological flexibility measures, which have been used to evaluate workplace ACT interventions for staff in high-income countries.

## 2. Methods

### 2.1. Study design

This single-armed pilot study follows CONSORT guidelines for reporting feasibility objectives and findings (Eldridge et al., 2016; Lancaster & Thabane, 2019). To meet primary feasibility objectives, we assessed recruitment to the study, and retention of staff through a multisession ACT Matrix program. To assess program acceptability, we adopted Sekhon's Theoretical Framework of Acceptability (TFA; Sekhon et al., 2017), and collected a mix of quantitative data (via a post-intervention acceptability questionnaire) and qualitative data (via a post-intervention focus group). To explore the applicability of psychometric tools commonly used in workplace intervention research in Western countries, we administered a set of pre- and post-intervention measures, capturing perceived stress, well-being, and psychological flexibility/inflexibility.

This program of workplace ACT evaluation research was approved by Makerere University's School of Health Sciences Research and Ethics Committee. Written informed consent was obtained from all participants. To safeguard privacy, names were removed and replaced with identification numbers during analysis and reporting of results.

### 2.2. Participants and procedure

The trial took place at a small private not for profit hospital in Kampala, Uganda. We chose this site as a member of the local research team had an existing contact within the human resources (HR) department. This hospital is representative (in terms of its staffing profile) of other similar health facilities located across Kampala's metropolitan area. The host hospital division employed 31 staff working in nursing or midwifery roles, and this group was our primary target for recruitment. After obtaining the HR manager's support, we collaborated with a divisional leader to recruit participants. The divisional leader provided a list of nurses and midwives, who were contacted individually and invited to attend a study briefing with a member of the research team (held on Saturday, August 2nd, 2025). The briefing was attended by 21 members of the hospital's staff. During the briefing, we explained the study's procedures and informed consent process. We also sought staff opinions on the most suitable day of the week and time of day to deliver the training. It was decided that the training would be offered early on Tuesday mornings for four consecutive weeks. This format was chosen to facilitate attendance by 1) nurses/midwives who had recently completed a night shift, and 2) nurses/midwives who could attend prior to starting day shifts. For interested staff, informed consent was obtained immediately after the briefing on an individual basis in a private room at the hospital.

### 2.3. Measures

Acceptability questionnaire (adapted from Sekhon et al., 2022).

To obtain retrospective ratings of the ACT Matrix program's acceptability, we administered a questionnaire derived from the Theoretical Framework of Acceptability (TFA; Sekhon et al., 2017, 2022). The TFA has seven components: affective attitude, burden, ethicality, intervention coherence, opportunity costs, perceived effectiveness, and self-efficacy. Table 1 shows the acceptability items, which were rated on a 5-point response scale. Given our interest in the cross-cultural

**Table 1**  
Responses to acceptability and satisfaction scale items.

Acceptability measure items	Response scale	Min/Max score	Mean (SD)
How much did you like or dislike the training?	1 = strongly disliked, 2 = disliked, 3 = no opinion, 4 = liked, 5 = strongly liked	4/5	4.88 (.34)
How much effort did it take to participate in this training?	1 = no effort at all, 2 = a little effort, 3 = no opinion, 4 = a lot of effort, 5 = huge effort	1/5	4.19 (1.22)
There were some moral or ethical challenges for me to participate in this training.	1 = Strongly disagree, 2 = disagree, 3 = no opinion, 4 = agree, 5 = strongly agree	1/5	3.13 (1.63)
The training has improved my well-being.	1 = strongly disagree, 2 = disagree, 3 = no opinion, 4 = agree, 5 = strongly agree	4/5	4.94 (.25)
It is clear to me how the training could help to improve my well-being.	1 = strongly disagree, 2 = disagree, 3 = no opinion, 4 = agree, 5 = strongly agree	4/5	4.88 (.34)
How confident do you feel about using the techniques you learnt during the training?	1 = very unconfident, 2 = unconfident, 3 = no opinion, 4 = confident, 5 = very confident	1/5	4.63 (1.02)
Engaging in the training interfered with my other priorities.	1 = strongly disagree, 2 = disagree, 3 = no opinion, 4 = agree, 5 = strongly agree	1/5	2.06 (1.44)
How acceptable was the training to you?	1 = completely unacceptable, 2 = unacceptable, 3 = no opinion, 4 = acceptable, 5 = completely acceptable	4/5	4.75 (.44)
This training is appropriate for the Ugandan context. <sup>a</sup>	1 = strongly disagree, 2 = disagree, 3 = no opinion, 4 = agree, 5 = strongly agree	4/5	4.94 (.25)
<b>Training satisfaction measure items</b>			
How would you rate the quality of the training?	1 = Poor, 2 = Fair, 3 = Good, 4 = Excellent	3/4	3.94 (.25)
Was this the kind of training you wanted?	1 = No, definitely not, 2 = No, not really, 3 = Yes, generally, 4 = Yes, definitely	3/4	3.94 (.25)
To what extent has the training met your needs?	1 = None of my needs have been met, 2 = Only a few of my needs have been met, 3 = Most of my needs have been met, 4 = Almost all of my needs have been met	3/4	3.31 (.48)
Would you recommend this training to a friend?	1 = No, definitely not, 2 = No, I don't think so, 3 = Yes, I think so, 4 = Yes, definitely	3/4	3.94 (.25)
How satisfied are you with the amount of training you received?	1 = very dissatisfied, 2 = Indifferent or mildly dissatisfied, 3 = Mostly satisfied, 4 = Very satisfied	3/4	3.69 (.48)
Has the training helped you to deal more effectively with your problems?	1 = No, it seemed to make things worse, 2 = No, it really didn't help, 3 = Yes, it helped somewhat, 4 = Yes, it helped a great deal	3/4	3.94 (.25)
In an overall, general sense, how satisfied are you with the training?	1 = Quite dissatisfied, 2 = Indifferent or mildly dissatisfied, 3 = Mostly satisfied, 4 = Very satisfied	3/4	3.88 (.34)

Note. N = 16. Acceptability items adapted from theoretical framework for acceptability questionnaire (Sekhon et al., 2022). Training satisfaction items adapted from the client satisfaction questionnaire (Larsen et al., 1979).

<sup>a</sup> Item developed for this study.

applicability of the ACT Matrix, we added an additional item: “This training is appropriate for the Ugandan context”.

Training satisfaction questionnaire (adapted from Larsen et al., 1979)

We used seven training satisfaction items adapted from the client

satisfaction questionnaire (CSQ; Larsen et al., 1979). Participants answered on a 4-point response scale, with response anchors phrased according to the question (see Table 1).

Perceived stress scale (PSS-10; Cohen et al., 1983)

We administered the 10-item PSS at pre- and post-intervention. The PSS has been extensively used to assess the efficacy of psychological interventions in workplace settings (Bartlett et al., 2019; Estevez Cores et al., 2021). Participants responded with respect to the last month, on a scale ranging from 0 (never) to 4 (very often).

Mental health continuum – short form (MHC-SF; Keyes, 2005)

The Mental Health Continuum short-form has 14 items assessing three dimensions of well-being: emotional well-being (3 items), psychological well-being (6 items), and social well-being (5 items). The MHC-SF demonstrates good psychometric properties, and is sensitive to change in response to mental health interventions (Iasiello et al., 2022; Kraiss et al., 2022). Participants reported their well-being over the past month, on a 6-point scale ranging from never to every day.

Comprehensive assessment of acceptance and commitment therapy processes (CompACT; Francis et al., 2016)

The CompACT is a 23-item measure capturing three ACT processes: openness to experience (10 items), behavioral awareness (5 items), and valued action (8 items). This instrument has been used to evaluate the effectiveness of workplace ACT interventions (Reeve et al., 2021; Zhang et al., 2024), and has been applied in Uganda (Mugarura et al., 2025). Responses were recorded along a scale ranging from 0 (strongly disagree) to 6 (strongly agree). Higher scores indicate greater psychological inflexibility.

Multidimensional psychological flexibility inventory (MPFI; Rolffs et al., 2018)

The MPFI assesses psychological flexibility and inflexibility. We used the short-form, consisting of sets of two-item subscales capturing six psychologically flexible processes and six inflexible processes (24 items in total). Participants rated items with respect to the past two weeks, using a scale ranging from 1 (never) through to 6 (always). As the MPFI has not been widely used in Uganda, items were reviewed by an Ugandan member of the research team. The reviewer identified terminology in six items likely to be unfamiliar to Ugandans (e.g., “stalled out”, “fell by the wayside”). This wording was replaced with more commonly used English phrases designed to retain the same meaning (see supplementary file A).

#### 2.4. ACT matrix training protocol

The 4-session program was labeled “workplace wellness training”. The training was delivered in-person and group format, and followed the same approach as workplace ACT training developed for staff in the UK, which adopts key principles and practices described in ACT Matrix manuals (Polk et al., 2016; Polk & Tenaglia, 2022). The training took place in a room at the hospital (adjacent to a dining area). Each session was designed to last for a maximum of 1.5 h. The training was delivered by two local Ugandan psychologists [KM and RK], who were familiar with ACT. Across the four-week implementation phase, the trainers participated in peer-supervision sessions with members of the UK team [PF and RM] who developed the workplace protocol.

Session content was informed by the first three steps in Polk et al.’s (2016) ACT Matrix guide: Setting up the Matrix as a point of view; recognizing the functions of relief moves; and introducing the metaphorical notion of “hooks” to help cultivate cognitive defusion. The horizontal line on the Matrix diagram was labeled “toward” to the right and “relief” to the left. This was to sidestep challenges encountered when using the term “away” on the left-hand side of the ACT Matrix (Polk & Tenaglia, 2022). See Table 2 for a summary of the program’s content.

In each session, the trainer self-disclosed (on a flipchart) an example of looking at a specific aspect of life from the Matrix point of view, then gave participants time to practice using the tool to notice and sort their

**Table 2**  
Summary overview of training components.

<b>Session 1</b>	<ul style="list-style-type: none"> <li>• Introductions and warm-up</li> <li>• Description of basic format of the training</li> <li>• Introduction of the ACT Matrix as the central training tool</li> </ul>
<b>Session 2</b>	<ul style="list-style-type: none"> <li>• Matrix retrospective noticing exercise</li> <li>• Understanding relief moves</li> <li>• Matrix prospective noticing exercise (with personal values cards)</li> </ul>
<b>Session 3</b>	<ul style="list-style-type: none"> <li>• Matrix retrospective noticing exercise</li> <li>• “Hooks” metaphor and noticing hooks exercise</li> <li>• Matrix prospective noticing exercise (with personal values cards)</li> </ul>
<b>Session 4</b>	<ul style="list-style-type: none"> <li>• Matrix retrospective noticing exercise</li> <li>• Communicating key ACT Matrix messages</li> <li>• Sharing Matrix exercise (in pairs)</li> </ul>

own experiences. For home practice between sessions, the trainer invited participants to see if they could notice at least one relief move and one toward move every day. The only modification from the UK protocol was the inclusion of an introductory information segment on growing interest in mental health and well-being in Uganda (taking approximately 7 min at the start of the first session). This was added on the advice of the local trainers, and was designed to convey that the program was about promoting “wellness” skills rather than offering therapy for mental health difficulties. Additional information on the program and trainers’ backgrounds can be found in the Template for Intervention Description and Replication (TIDieR) form (supplementary file B).

**2.5. Data analysis**

Descriptive statistics were computed for the TFA questionnaire and training satisfaction scales. The focus group discussion was audio-recorded and later transcribed. Two Ugandan members of the research team thematically analyzed the qualitative data using both inductive and deductive approaches (Proudfoot, 2022). The process began with the analysts inductively coding the focus group transcript to identify

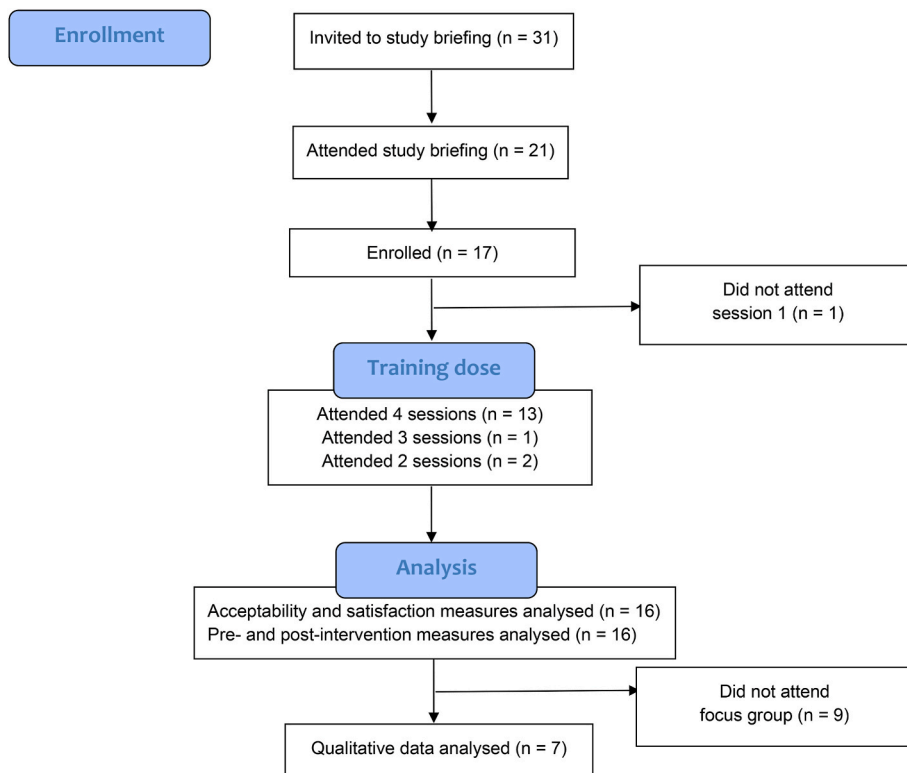
emergent codes; they then met to discuss and agree codes. Inter-coder reliability was established at 83%. Once coding was complete, the analysts deductively organized emergent codes into the TFA domains to create an analysis framework. This framework was then applied to the transcript to complete the analysis.

Consistent with CONSORT guidelines for feasibility trials, we did not test hypotheses about changes on measures administered at pre- and post-intervention (Lancaster & Thabane, 2019). Instead, we report descriptive statistics for each measure, along with effect sizes (Cohen’s *d*) of any differences between pre- and post-assessments and their 95% confidence intervals. Recent workplace ACT trials were powered to detect medium-sized effects (Christodoulou et al., 2024; Lu et al., 2023). On this basis, we considered a measure to be showing preliminary signs of short-term change sensitivity in response to the ACT Matrix training if improvement from pre-to post-intervention (a 4-week period) was at least moderate in size (i.e., Cohen’s *d* > .50). Descriptive statistics and effect sizes were computed using IBM SPSS (version 31).

**3. Results**

**3.1. Recruitment and retention**

Fig. 1 shows the flow of participants through the trial. Following the briefing (attended by 21 people), 17 members of staff agreed to participate in the study. One enrolled participant did not attend training sessions and did not contribute data. The final sample of 16 participants attended ACT Matrix sessions and completed quantitative measures before and after the intervention. Most participants (n = 13) were female. Participants fell into the following age groups: 20-25 (n = 6), 26-30 (n = 1), 31-35 (n = 4), 36-40 (n = 3), older than 40 years (n = 2). Most participants were nurses (n = 9; 56%) or midwives (n = 5; 31%), representing 45% (14/31) of the targeted group of hospital staff. Two participants worked in (HR) administrative roles. Based on Uganda’s educational stages, 7 participants held a certificate, 2 were enrolled, 5 had a diploma, while 2 participants held an undergraduate or



**Fig. 1.** Flow of participants through the study.

postgraduate degree.

There was good attendance across the four training sessions. Specifically, 13 of 16 staff (81%) attended all four sessions. One participant missed session 2, but attended sessions 1, 3 and 4. Two participants attended sessions 1 and 4.

All 16 participants were invited to attend the focus group which took place immediately after the final session. A group of 7 individuals (44% of the trained group) participated in the focus group discussion. All but one focus group participant attended four training sessions (the other participant attended sessions 1 and 4).

### 3.2. Acceptability and training satisfaction ratings

As summarized in Table 1, participants gave high ratings to most TFA questionnaire items, indicating that the ACT Matrix program was viewed as useful for improving well-being, acceptable, useable, and culturally applicable. There was also a high level of satisfaction with the training. Two TFA questionnaire items (relating to effort and moral/ethical challenges) attracted a more mixed pattern of responses (including responses at both ends of the 1 to 5 response scale). Specifically, 13 of the 16 participants reported that participating required “a lot” or “huge” effort; while 9 of the 16 participants either agreed or strongly agreed that participation came with moral or ethical challenges. Our qualitative analysis of the focus group transcript revealed some reasons behind these responses (particularly in the TFA domains of *burden* and *opportunity costs*).

### 3.3. Qualitative findings from the post-intervention focus group

The focus group discussion, and thematic analytical approach, were guided by the multicompetent TFA (Sekhon et al., 2017). The following summary thematic findings are therefore organized according to the TFA's dimensions: Perceived effectiveness, affective attitude, self-efficacy, intervention coherence, burden, opportunity costs, and ethicality.

#### Perceived effectiveness

Within this TFA component, we explored participants' perceptions about how the ACT Matrix program could improve their well-being. The subthemes we identified were self-awareness, understanding one's own emotions, and problem-solving.

#### Self-awareness

Attending the training provided participants with an opportunity to recognize themselves. This increased self-awareness reportedly helped participants to interact more thoughtfully with others, as illustrated in the excerpts below.

“I have been able to realize myself, who I am. And I've been able to realize it all. It's very hard, currently, after having this training, to just get bitter with people.” [A07/ male].

“Personally, I've developed the skills of identifying myself in my day-to-day life. Actually, identifying good and bad.” [A04/ male].

#### Understanding one's own emotions

Similarly, the training helped participants to recognize and understand their own emotions. The enhanced emotional awareness led to greater reflection and openness to fleeting feelings.

“I'm also able to understand my emotions, even when I'm breaking down. I can realize that I've been breaking down since the time we started. Like today, I'm supposed to have a paper at school, I'm a student, but I was like, no, the training has impacted a lot.” [A07/ male].

“So, I can handle different kinds of people now. I can tell I'm getting off. Now I have to do this.” [A01/ female].

#### Constructive problem solving

A number of participants reported that the training taught them to

handle problems more openly.

“I learned how to identify my problems, deal with them, and not forget what I want. Don't lose focus on what you want.” [A06/ female].

“Knowing myself better, to handle my stress and things I see that occupy my mind and are important. The hardest things I see are the ones I need to take a break from.” [A01/ female].

#### Decision making

Closely related to problem-solving, the training empowered participants with decision-making skills. Some participants noted feeling more able to make bolder decisions, even in tough circumstances, and others claimed they could perform better at work.

“I'll be able to make bold decisions. Sometimes we fail to make our own decisions and keep asking others. Those people make decisions for you, you choose them, and later you regret those decisions. So, I am very sure that in the future, I will be able to make bold decisions.” [A04/ male].

#### Affective attitude

In the second TFA domain, we explored participants' perceptions of their overall training experience and impression of the ACT Matrix tool. The common themes here were personal relevance, needed across life domains, and simplicity.

#### Relevant

Participants found the training relevant to them. Some easily related the training to what they were experiencing at that moment (e.g., in their personal lives), making it seem more useful.

“To be very specific, it was relevant, actually, it cuts across, and it's like a cross-cutting issue. It doesn't only apply to work. It applies to our personal lives.” [A02/ female].

“It's very nice. And for me, from this session, the majority of the things are as if you were talking about me, the stuff that shows up.” [A03/ male].

#### Needed in all life domains

Although the training was delivered at the workplace, participants discussed how they found it useful across all areas of life and across different life issues.

“So, it's a cross-cutting issue that you cannot stop rolling something that is needed all over the space, even in our homes. It is needed all over. Therefore, the content and relevance of the training are greatly needed.” [A02/ female].

#### Simplicity

Beyond the content, participants valued the nature and delivery method of the ACT Matrix. They considered the training approach to be straightforward, easy to understand, and not cognitively demanding, as shown in these quotes.

“I think, also, the delivery mode. It was too simple to deliver. Okay. It was made simpler in terms of delivery.” [A02/ female].

“This training is different. I've attended many trainings. The way you've conveyed the message is a bit simpler than presenting us with many slides.” [A04/ male].

#### Self-efficacy

Within the TFA's self-efficacy dimension, we focused on participants' reported confidence in their ability to practice using the ACT Matrix for themselves or with others. Confidence in the program offers some reassurance that it will continue to be practiced after the 4-week program. Participants expressed confidence in training others, while noting they would still require supervision.

#### Training others

Participants expressed confidence that they understood the program

and could easily pass on the knowledge and skills to others who might need them. Some were willing to train their own relatives, while others proudly identified themselves as “ambassadors” of the training approach.

“I know even my family, maybe I’ll say my brothers, they are passing through a lot, and when I started this training, from the day one I was like, I’m going to also teach my brothers, I have a lot of brothers, even my mum, I’ll make sure I sit her down, teach her this.” [A04/ male].

“If you can have these other sessions delivered by us, the ambassadors, we are now your ambassadors.” [A07/ male].

#### *Need for supervision*

While the confidence was high, participants were also cautious about needing close supervision as they show others, so that their confidence can be further boosted. Supervision would verify that the process is done correctly and provide an opportunity for corrections.

“I believe that when we deliver the same training, it would be beneficial to have you, who are experts in this field and know what you’re doing, present during these sessions to ensure we’re doing it correctly.” [A02/ female].

#### *Intervention coherence*

For this theme, we gauged participants’ understanding of the ACT Matrix, particularly how it functions.

#### *Understanding of metaphors and materials*

Participants understood the program’s metaphors and materials. They could easily relate the message behind the metaphors to their lives, as illustrated in this quote:

“Me, mostly on the second last session about hooks and baits, I was able to realize that I was stuck somewhere, though I didn’t know as a person.” [A01/ female].

#### *Training process (reflection)*

Participants demonstrated an understanding of some processes used in the ACT Matrix, particularly a broadened sense of awareness (e.g., described in the form of pausing and “stepping back”). Being able to recall components of the change mechanism indicates a good level understanding of the intervention.

“There is that thing of taking a step backward, reflecting, then acting. That thing is now a big part of my life, and not something you have to react to.” [A06/ female].

“For me, actually, this training is telling me that in life or in every aspect, you need to take a moment. So, when you take a moment, you identify what is important, then what shows up in your mind. So, what shows inside me could be good or bad.” [A04/ male].

#### *Burden*

For this TFA component, we focused on what participants discussed about challenges linked to attending the ACT Matrix sessions, and what they sensed might be challenges when looking to practice using the ACT Matrix.

#### *Balancing training attendance with duty*

The primary burden reported was concern about being able to fulfill one’s duties while also finding time for the weekly ACT Matrix sessions. Since the hospital is understaffed and services must remain continuous, some participants had to juggle tasks and the training.

“I am very busy during the morning hours. I work at the [department masked for confidentiality]. And you can imagine, we are two nurses there, so you can’t leave your colleague alone for more than two hours. So, you find yourself caught in between, and you need to get the knowledge from this side.” [A04/ male].

#### *Timing of delivery*

Similarly, since training sessions took place during morning hours on working days, some participants found it unfavorable. They suggested

scheduling the training for a time when most participants are less busy.

“I think the program should be delivered at a time when most people are free. It should be done when most people are at least not so busy.” [A05/ female].

#### *Opportunity cost*

Reflecting on any “costs” of completing the training, participants shared what they had to miss or forego. While some preparations were made to maximize convenience for attendees, the challenges were evident.

#### *Missing work*

Concerns arose about missing work, including leaving patients unattended for some time during the training period. Suggestions to hold the training on less busy days, such as Saturday mornings were shared.

“We have given up a lot to be here, some of us. Maybe we would have consulted each other, perhaps on a Saturday morning. Maybe it would have been more convenient for most of us. But other people are on duty in different places, so they would not be able to attend.” [A07/ male].

#### *Forgoing routine activities*

Relatedly, some participants reported missing routine but important activities, such as attending morning devotion, in order to attend the training. This trade-off was troubling for some participants.

“We usually have so many competing activities, like us. We usually have a devotion. So, like, you need to show up and forego the devotion.” [A02/ female].

#### *Ethicality*

Finally, participants shared views on whether they believe the ACT Matrix training offers a good fit for staff in the hospital setting, their nursing profession, and with respect to personal values and beliefs.

#### *Teaches compassion.*

Participants acknowledged that ACT Matrix fostered compassion and transformed some individuals to approach work differently. Multiple comments about altering the quality of interactions with patients emerged.

“Sometimes I have been getting angry even with patients, now I act better and do not allow myself to throw my problems on others.” [A03/ male].

### *3.4. Responses to measures administered at pre- and post-intervention*

We received no comments from participants to suggest that questionnaire items were confusing or inappropriate. Acceptability of the measurement battery was also implied by the fact that there was no missing data on items in the pre or post assessments. Table 3 reports descriptive statistics for each measure completed before and after the 4-week program. Promising signs of short-term change sensitivity in response to ACT Matrix training (i.e., Cohen’s  $d > .50$ ) were exhibited by positive measures of emotional and psychological well-being (two MHC-SF subscales) and psychological flexibility (MPFI). However, confidence intervals were wide across all measures, indicating imprecision in these effect size estimates in this small cohort of staff.

## **4. Discussion**

The goal of this pilot study was to assess the feasibility and acceptability of a 4-session workplace training program based on the ACT Matrix among hospital staff in Uganda. We pursued five primary objectives, oriented toward recruitment, retention across training sessions, cultural fit, and various domains of acceptability. Our secondary objective was to assess the applicability of evaluating workplace ACT programs in this context with mainstream measures of stress, well-being, and psychological flexibility.

**Table 3**  
Responses to measures completed at pre- and post-intervention.

Measure	Pre-intervention mean (SD)	Post-intervention mean (SD)	Effect size [95% CI]
PSS-10	17.06 (5.18)	15.31 (6.32)	$d = .28$ [-.22, .78]
MHC-SF total	52.69 (6.19)	57.69 (7.94)	$d = -.58$ [-1.10, -.04]
MHC-SF emotional WB	10.75 (1.91)	12.00 (1.83)	$d = -.71$ [-1.25, -.15]
MHC-SF psychological WB	23.38 (2.92)	25.81 (3.21)	$d = -.59$ [-1.11, -.05]
MHC-SF social WB	18.56 (3.10)	19.88 (3.95)	$d = -.38$ [-.89, .13]
CompACT total	52.69 (13.53)	40.69 (16.30)	$d = .76$ [.19, 1.31]
CompACT awareness	8.50 (5.67)	7.81 (6.37)	$d = .10$ [-.40, .59]
CompACT openness	35.32 (7.35)	28.13 (10.24)	$d = .78$ [.21, 1.34]
CompACT valued action	8.88 (6.66)	4.8 (3.24)	$d = .59$ [.05, 1.12]
MPFI flexibility	57.38 (7.39)	63.56 (8.54)	$d = -.55$ [-1.06, -.01]
MPFI present moment awareness	9.94 (2.64)	10.56 (1.41)	$d = -.23$ [-.72, .27]
MPFI self-as-context	10.06 (1.84)	10.38 (2.31)	$d = -.11$ [-.60, .39]
MPFI acceptance	9.44 (1.97)	10.38 (1.93)	$d = -.32$ [-.82, .19]
MPFI defusion	8.56 (2.19)	10.19 (2.88)	$d = -.59$ [-1.11, -.05]
MPFI values	9.56 (2.53)	11.00 (1.26)	$d = -.55$ [-1.07, -.02]
MPFI committed action	9.81 (1.97)	11.06 (1.57)	$d = -.62$ [-1.15, -.07]
MPFI inflexibility	36.69 (8.78)	37.25 (10.21)	$d = -.05$ [-.54, .44]
MPFI lack of contact with present	4.25 (1.73)	5.00 (2.73)	$d = -.25$ [-.75, .25]
MPFI self-as-content	5.94 (2.72)	6.94 (2.79)	$d = -.29$ [-.79, .21]
MPFI avoidance	10.06 (1.91)	8.00 (3.39)	$d = .57$ [.03, 1.09]
MPFI fusion	5.56 (3.20)	5.94 (3.59)	$d = -.12$ [-.61, .38]
MPFI lack of contact with values	5.87 (2.58)	6.19 (2.29)	$d = -.19$ [-.68, .31]
MPFI inaction	5.00 (2.07)	5.19 (2.74)	$d = -.06$ [-.54, .44]

Note.  $N = 16$ . PSS-10 = perceived stress scale (10 item version). MHC-SF = mental health continuum (short-form). WB = well-being. MPFI = multidimensional psychological flexibility inventory (short-form).

In terms of recruitment, we began without firm expectations about how many nurses and midwives might be able to participate in the multisession program (given the need for the hospital to maintain frontline services). Our primary organizational contact (a HR manager) had signaled that there would be interest in a workplace wellness initiative among this group of hospital staff. Given the setting, we view it as a promising sign for future trials that 14 of the target population of 31 nurses and midwives enrolled for the program. The briefing session had an important influence on recruitment. Prior to the briefing, we heard anecdotally that confusion had circulated about the project (e.g., misperception that the training was about assessing patients with mental health difficulties).

Retention across the program was also encouraging, with 13 of 16 participants attending all four sessions (the remaining 3 participants attended at least two sessions). This engagement occurred despite reported challenges linked to the timing of the sessions, and conflict faced by participants between training attendance and other responsibilities (e.g., work duties, concern for colleagues on shift, prayer meetings). These challenges were reflected in responses to two acceptability scale

items (effort, and moral/ethical challenges). The specific nature of the challenges was revealed by staff in the focus group. In view of these observations, one recommendation for future trials in this context would be to spend more time consulting with staff groups about the timing of such training. We thought we had reached a compromise that allowed inclusion of day and night shift workers within the same training group. Our data revealed the “costs” associated with that compromise, with a significant proportion of attendees feeling that the training occurred at a busy time.

Aside from the implementation challenges, the remaining acceptability domains attracted consistently high ratings, implying that participants sensed that practicing with the ACT Matrix could enhance their well-being; and participants reported a high level of confidence that the training techniques would continue to be used. Drawing together the TFA questionnaire scores and focus group data provides insight into how the participants felt the training was useful for improving well-being. Specifically, the themes we allocated to the *perceived effectiveness* domain indicated that the program strengthened participants’ sense of self, manifesting in enhanced self-awareness (e.g., awareness of emotional reactions), and in more autonomous decision-making and problem solving. Comments related to enhanced self-awareness were evident across the focus group transcript (e.g., “knowing myself better”; “I have been able to realize myself”; “identifying myself in my day-to-day life”).

Another prominent theme in the qualitative analysis was that benefits of the training were noticed across life domains (i.e., in participants’ work, home, and community lives). One focus group participant labeled this benefit as “cross-cutting”. This might be a consequence of designing the program as a generic psychological flexibility training approach. This approach was realized by the trainers self-disclosing examples from different domains of their own lives (i.e., not just in relation to work). This is how ACT has often been delivered to staff in the UK, offering psychological skills that can then be utilized (and further developed) in all areas of life (Christodoulou et al., 2024; Flaxman et al., 2023; Prudenzi et al., 2022). This approach differs from ACT programs that explicitly orient examples and exercises toward work examples and issues (e.g., Lu et al., 2023). In the current study’s context, we viewed the generic approach as most appropriate, given that participants had different job roles. The focus group discussion indicated that this was a well-received feature of the training.

Our secondary objective was to assess the utility of a set of psychometric instruments that could be candidates for future larger trials of workplace ACT programs in Uganda. Our most important observation is that participants encountered no apparent issues with items in the stress, well-being, and psychological flexibility measures. Although, this outcome may have been influenced by our decision to modify the phrasing in a few MPFI items prior to administration.

The nonuniform pattern of pre-to-post effect sizes across the measures might be of interest to readers interested in planning future workplace ACT trials in this context. We detected promising signs of change sensitivity on positive markers of well-being (MHC) and psychological flexibility (MPFI). Given the wide confidence intervals surrounding the effect sizes, and narrow evaluation timeframe, we urge caution against overinterpreting these changes. Nonetheless, if similar patterns of change on these positive markers of functioning are replicated in future trials, it could hold implications for how such programs are presented in Ugandan workplaces. In Uganda, there may be stigma around mental illness, which could impact recruitment to staff initiatives that appear to be about “treating” psychological difficulties (Asiimwe et al., 2023). Demonstrations that the ACT Matrix strengthens positive skills imply that future programs might be validly presented as well-being enhancement initiatives. This type of labelling (and evaluation strategy) could help attract individuals interested in boosting personal well-being, but who are less likely to seek support that appears oriented toward addressing stress-related psychological symptoms. Traditionally, the workplace ACT literature focused on demonstrating

reductions in staff distress and/or burnout (Prudenzi et al., 2021; Reeve et al., 2018; Towey-Swift et al., 2023). More recently, there have been calls to consider ACT as a viable approach for enhancing psychological well-being in the general population (Flaxman et al., 2023; Howell & Demuynek, 2023). Although this trial's observations are preliminary, they suggest that these developments could be harnessed in future applications and evaluations of ACT for staff in Uganda.

#### 4.1. Limitations and directions for future research

Several limitations should be noted. First, our study involved staff at one hospital in Uganda's capital city. Hence, it may be premature to generalize the findings to trials conducted with healthcare staff working in rural areas of the country. Second, although we were not made aware of such influences, there may have been unreported management pressure on staff to attend the training, thereby artificially increasing recruitment. Third, only a minority ( $n = 7$ ) of 16 trained staff contributed to the focus group. It is possible that focus group participants found the ACT Matrix training most useful, and/or felt comfortable joining the discussion because they had positive experiences to share. This possibility is somewhat undermined by the tone of the focus group's conversations, which not only highlighted benefits of the training but also focused on challenges posed by participation. Fourth, this is a small feasibility trial, with no control group, so reported improvements on pre- to post-intervention measures should not be interpreted as effectiveness data. Rather, participants' uncomplicated experience with the measures could be viewed as a signal that this is a viable measurement battery for future trials of ACT among Ugandan healthcare staff. Fifth, we gathered quantitative and qualitative data immediately after the final session of training. It would be informative for future research to include follow-up assessments (e.g., 1 to 3 months post-intervention) to gauge participants' continued use of the ACT Matrix, and whether the measures exhibit similar change sensitivity over a longer timeframe. Finally, our decision to run only one training group may have contributed to difficulties reported by participants. We were keen to minimize disruption to the hospital's service provision, and delivering the training to a single group appeared a feasible option. It may have been preferable to offer an additional training group (with sessions on a different day and time), tailored to staff on particular (e.g., night) shifts.

Despite the limitations, our findings indicate that training with the ACT Matrix was well-received by this sample of Ugandan hospital staff. We made very minimal modifications to a workplace ACT Matrix training approach utilized in the UK, suggesting that this training tool may be culturally applicable for similar groups of Ugandan healthcare staff, pending further study in larger and more diverse samples. Accordingly, we believe it is appropriate to recommend progressing to the next stage of research in this context. That could take the form of a larger feasibility trial, involving staff from other local hospitals, implementing a control condition and follow-up assessment period. We further recommend that future trials include positive markers of well-being and psychological flexibility among the evaluation measures; and (if the MPFI is used) inspect the slight changes we made to the wording of some MPFI items. We hope that this pilot study represents a useful step towards increasing access to workplace ACT interventions in Uganda.

#### CRediT authorship contribution statement

**Rosco Kasujja:** Writing – original draft, Supervision, Conceptualization. **Khamisi Musanje:** Writing – original draft, Supervision, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Ross McIntosh:** Supervision, Resources, Project administration, Methodology, Conceptualization. **Hilary Mugabo Mukula:** Methodology, Formal analysis, Data curation, Conceptualization. **Anisah Jagwe:** Project administration, Methodology, Investigation, Data curation. **Ivan Diaz Asimwe:** Project

administration, Methodology, Investigation, Data curation. **Sarah Mir-embe Byamukama:** Project administration, Methodology, Investigation, Formal analysis, Data curation. **Paul E. Flaxman:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

#### Declaration of competing interest

The corresponding author receives royalties for a book on ACT in the workplace.

#### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jcbs.2026.101016>.

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