

**Reducing stress in the helping professions:  
Is Acceptance and Commitment Therapy (ACT) a  
useful model for intervention?**

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## **PREFACE**

The first paper will be submitted to the Journal of Occupational and Organizational Psychology. The second paper will be submitted to Training and Education in Professional Psychology. Both papers were written in line with the author guidelines issued by the journals (see Appendices 3 & 9) though the tables and figures have been left within the text for ease of reading. All papers have been formatted in accordance with Staffordshire and Keele Universities' guidelines and will be adjusted for publication purposes and in line with journal requirements at a later date. The third paper is not intended for publication but offers a reflexive review of the thesis, and as such assumes reader familiarity with papers one and two.

## THESIS ABSTRACT

Individuals working in the helping professions experience high levels of stress, which can impact upon their health and ability to function effectively at work. This thesis explores the utility of Acceptance and Commitment Therapy (ACT) interventions to reduce stress within this population.

The first paper explores the effectiveness of ACT interventions for reducing stress with the helping professions. A systematic search of the literature produced ten empirical papers of which two were unpublished theses. Interventions were predominantly delivered to groups of employees with the number of sessions ranging from two to six. Five studies indicated a decrease in stress. The findings are compromised by quality of the papers which limits the conclusions being drawn about the effectiveness of ACT interventions. Implications for applying ACT within the workplace are discussed along with suggestions for future research.

The second paper examines the utility of the ACT model with Trainee Clinical Psychologists. Hierarchical regression was used to determine whether acceptance, cognitive fusion, valued living, committed action, self as context and contact with the present moment (the ACT processes) predicted perceived stress while controlling for gender. Committed action emerged as the most significant predictor of perceived stress. Valued living, contact with the present moment and cognitive fusion were also significant predictors. Acceptance and self as context were not significant predictors of stress. The findings are discussed in relation to the management of stress with trainee clinical psychologists and suggestions are made for future research.

The final paper provides a first person reflexive account on the process of undertaking and completing this project. Personal reflections are offered on the various stages of the research process. Learning points are discussed and ideas for future research are considered.

Total word count: 16,617

## **Paper 1: Literature review**

**An exploration of ACT stress management interventions  
for individuals working within the helping professions.**

Word count: 7637 (excluding references and appendices)



## **Abstract**

Individuals working within the helping professions experience high levels of work related stress. Acceptance and Commitment therapy (ACT) is a third wave cognitive behavioural therapy that has been specifically adapted to reduce workplace stress, and has demonstrated promising findings with those working in customer service, management and technical roles. The purpose of this review was to examine the available evidence regarding the use of ACT interventions to reduce workplace stress with the helping professions. Ten studies were identified as eligible for review; each of which aimed to evaluate the impact of an ACT intervention on measures of stress. Five out of the ten studies included in the review reported a statistically significant decrease in stress at post intervention. Two of which reported a further decrease at three month follow up. However, the strength of the evidence was limited by the quality of the studies particularly in relation to small sample sizes, external validity and adherence to RCT methodology where relevant. A greater number of high quality studies are required to enable more definitive conclusions about the effectiveness ACT to reduce workplace stress.

## **Practitioner points**

- This review provides useful information regarding the application of ACT to reduce workplace stress with individuals working within the helping professions.
- The findings of this review are promising; however, further research is needed replicate the results within each of the occupational groups to establish applicability.

## INTRODUCTION

Work related stress has been identified as the most common cause of long term sickness absence amongst UK employees (Chartered Institute of Personal Development, 2016). Occupations that involve a significant responsibility for the care of others, for example: healthcare workers, social workers and teaching staff report significantly higher rates of work related stress and sickness absence than any other occupational group (Office for National Statistics [ONS], 2016). Taken together, this group of workers can be referred to as the 'helping professions' who nurture the growth of and, address the problems of a person's physical, psychological, intellectual or emotional constitution (Graf, Sator, Spranz-Fogasy, 2014).

The conditions that generate stress within the workplace as referred to as 'stressors' (Cooper, Dewe & O'Driscoll 2001). High workload, a lack of control over work and involvement in decision making are just some of the many stressors that exist within the work environment that are related to poor psychological health and sickness absence (Michie & Williams, 2001). Those working in the helping professions, encounter additional stressors related to the people they look after. A recurring stressor identified in the literature is the behaviour of students and service users. Behaviour such as verbal/physical aggression, disruptive behaviour and deliberate self-harm have been shown to relate to high levels of stress within this professional group (Chaplain, 2008; Rose, Jones & Fletcher, 1998; Edwards & Burnard, 2003; Persieus, Kaver, Ekdahl, Åspberg & Samuelsson, 2007).

The National Institute for Health and Care Excellence (2009) states that employers need to prevent and/or reduce stress by implementing interventions at organisational and individual level. Organisational interventions place emphasis on removing the source of stress, for example, by facilitating the management of workloads, defining work roles and improving communication. Individual interventions are psychological in nature and focus on improving one's ability to effectively manage stress (Fincham & Rhodes, 2005). However, no information is provided regarding interventions that could be utilised in practice.

One method that could reduce workplace stress is emotional regulation. The model proposed by Gratz and Roemer (2004) conceptualises emotional regulation as a psychological process that involves developing the ability to: notice changes

in emotional states (and the associated thoughts, feelings and physiological sensations), be open or willing to experiencing these states and, to act in accordance with one's goals regardless of emotional state. Interventions based on aspects of emotional regulation could mitigate the emotional response elicited by stressors, help people respond more effectively to the demands of the workplace and ultimately reduce stress (Perrewé, Rosen & Halbesleben, 2013).

Acceptance Commitment Therapy (ACT) is a third wave psychological intervention that draws parallels with the principles of emotional regulation. ACT focuses on changing how a person responds to internal experiences such as thoughts, emotions and physical sensations. Accordingly, thoughts, emotions and sensations are not thought to be the cause of distress, rather the individual's attempts to manage or problem solve through avoidance, control or suppression (Hayes & Smith, 2005). The goal of ACT is to facilitate psychological flexibility; that is, to respond more fully in the moment and to change or persist in behaviour only in the service of one's values (Hayes, Luoma, Bond, Masuda & Lillis, 2006). ACT works to develop psychological flexibility through increasing engagement with six core processes: (i) acceptance which involves developing a willingness to experience unwanted thoughts, feelings and sensations, (ii) cognitive defusion, the process of changing the way a thought (e.g. 'I am not good enough') is interacted with by creating contexts in which their unhelpful consequences are diminished, (e.g. labelling 'I'm not good enough, as just a thought'), (iii) contacting the present moment, which involves developing an ongoing, non-judgemental awareness of internal events and external realities as they occur (iv) self-as-context, adopting an observer perspective on one's internal and external experiences without becoming attached or invested in them, (v) values clarification is the process of identifying what is important and meaningful to oneself across various domains of life including family, health and work and (vi) committed action involves settings goals and engaging in behaviours that are guided by one's chosen values (Hayes, Strosahl & Wilson, 2012).

Bond and Hayes (2002) developed the 'ACT at work' group programme to specifically reduce workplace stress. The first part of the programme creates a context for change by exploring the 'workability' of current approaches to managing stress. Participants discuss their experience of workplace stress, consider the effectiveness of existing coping strategies and examine the personal

costs of rigidly adhering to patterns of coping. This process enables participants to acknowledge the unworkable nature of their coping strategies which invites a willingness to change. The second part of the programme uses metaphors, experiential exercises and discussion to facilitate engagement in the six ACT processes. Through engaging in the ACT processes, participants learn how to disentangle from the language processes that promote avoidance, suppression and control.

### *Rationale for current review*

Several reviews have been published on the efficacy of ACT for mental health difficulties, long term conditions and workplace stress (Hayes et al., 2006; Ost, 2008; Ruiz, 2012). The most recent review of ACT (Ost, 2014) included seven RCTs on the efficacy of ACT interventions for work place stress, five of which demonstrated a significant decrease in stress. However, only two studies involved the helping professions. It could be that the underrepresentation of studies involving the helping professions in the Ost (2014) review was the consequence of solely focusing on published RCTs. An update is required to review the evidence (including quasi experimental and unpublished studies) for ACT as an intervention to reduce workplace stress with this population.

This review takes a systematic approach to examine the available evidence regarding the use of ACT interventions within the helping professions.

The research question for this review is ‘what is the effectiveness of ACT interventions in reducing stress with the helping professions?’ Recommendations for future research will be made and clinical implications considered.

## **METHOD**

### *Search strategy*

The host databases Web of Science and EBSCO were used to access PsycINFO, PsycARTICLES, CINAHL Plus with full text, Academic Search Complete, MEDLINE and Web of Science to search for papers from the inception of the databases, up to and including January 2017. The ‘publications’ page on the Association of Contextual Behavioural Science website provides details of papers relevant to contextual behavioural science including ACT and was searched to ensure no important papers were overlooked. Hand searches of references lists were conducted.

Publication bias refers to the degree to which the findings of a study influence its likelihood of publication (Dickersin, 1990). Studies demonstrating favourable outcomes; for example; those showing a positive finding for an intervention, are more likely to be published than studies where this is not the case (Dwan et al., 2008). Hence, it is likely that published studies are an underrepresentation of what is known about a particular topic. To try and mitigate this, all available evidence was sought to also include, where possible unpublished studies. ETHOS, DAART, Zetoc and google scholar were searched to identify theses, dissertations, conference proceedings or other unpublished research.

The following terms were used to search for papers: Acceptance and Commitment Therapy AND stress; Acceptance and commitment training AND stress; ACT AND stress; Acceptance and Commitment Therapy AND stress management; Acceptance and commitment training AND stress management; ACT AND stress management; ACT AND work stress; Acceptance and commitment therapy AND work stress; Acceptance and commitment training AND work stress; Acceptance and Commitment Therapy and job stress; Acceptance and commitment training and job stress; ACT and job stress; ACT AND job stress; Acceptance and Commitment Therapy and occupational stress; Acceptance and commitment training and occupational stress and ACT and occupational stress.

#### *Inclusion criteria*

- Participants were staff (qualified or unqualified) working in health, education or social care settings whose role involves helping others for example, nurses, social workers, support workers
- The intervention was clearly defined and identified as being based on ACT
- Outcomes were assessed using specific pre-and post-measures of stress

#### *Exclusion criteria*

- Books chapters or magazine articles
- Studies evaluating the impact of ACT training

#### *Study selection*

The search identified 2760 papers (Figure 1) , 744 were duplicates. Papers were screened by abstract using the inclusion / exclusion criteria to determine eligibility. A further 1985 papers were removed for reasons including: the topics of interest

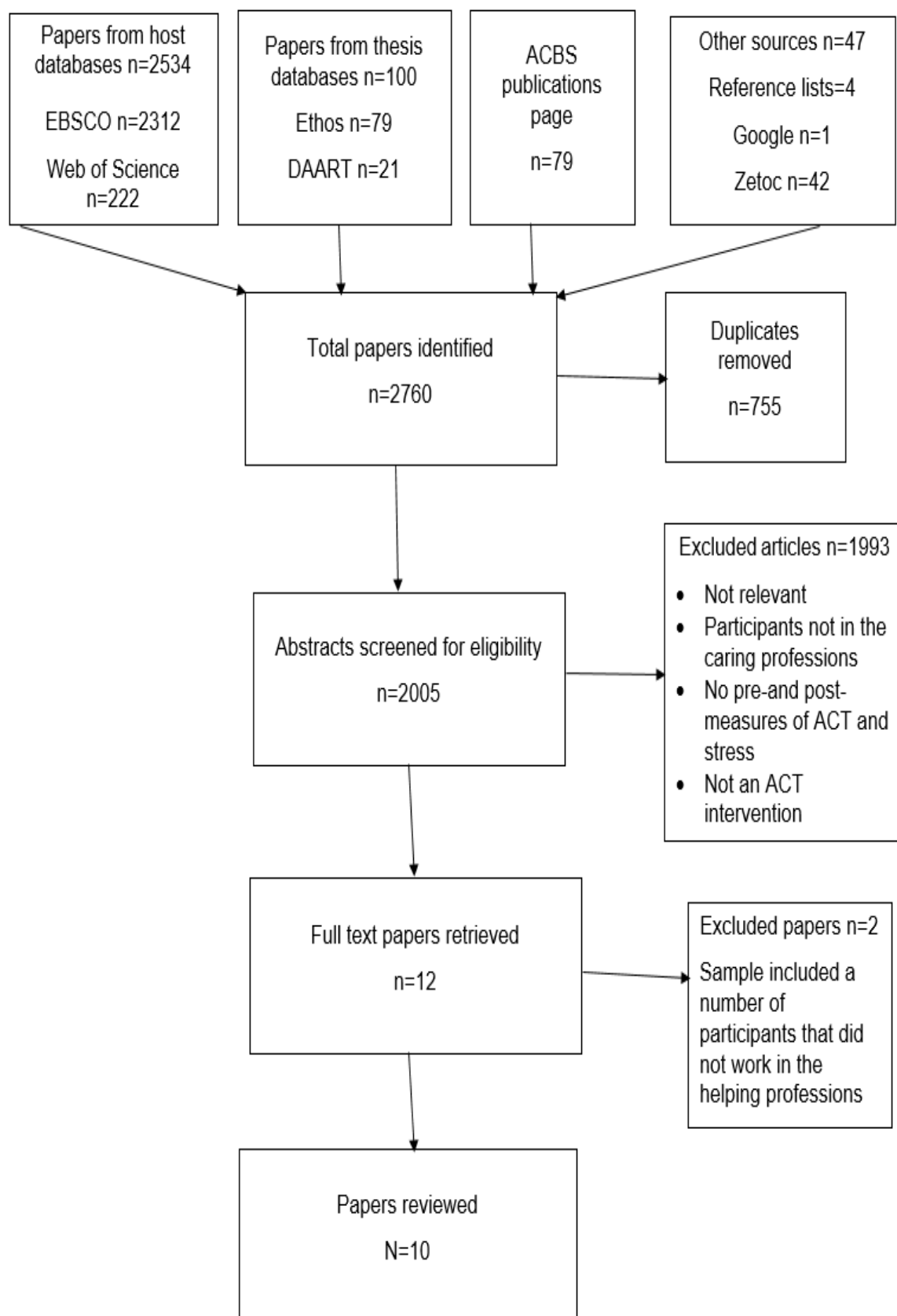
were not relevant, participants were not staff working in health, education or social care settings, pre-and post-measures of stress were not utilised and/or the papers focused on ACT training as opposed to intervention. Full text papers were retrieved in relation to the topic. Two papers were theses. One paper was written in Swedish and translated using Google Translate.

#### *Assessment of methodological quality*

A critical appraisal tool (see in Appendix 1) was developed to evaluate the quality of the evidence presented. The tool consisted of sixteen criteria that assessed validity, reliability and applicability of the varied studied. The criteria were based on questions included in the Critical Appraisal Checklist for Randomised Controlled Trials (Critical Appraisal Skills Programme, 2017), the Downs and Black (1998) checklist for measuring quality for both randomised and non-randomised studies, and items from the Consolidated Standards of Reporting Trials (CONSORT) which can also be used to critically appraise randomised controlled trials (Schulz, Altman & Moher, 2010). Each study was given an overall score indicating the number of criteria that were fully met. A rating of not applicable was given to items where the question was not relevant to the study design.

Figure 1:

Flow chart of study selection process



## RESULTS

### *Study characteristics*

An overview of the study characteristics of the final ten papers including strengths and limitations can be seen in Table 1.

Six studies were randomised controlled trials (RCTs) of which two included an active control group (Frögéli, Djordjevic, Rudman, Livheim & Gustavsson., 2016; Altbo & Nordin, 2007), and the remainder, a wait list control group (Brinkborg, Michanek, Hesser & Berglund., 2011; Thomas, 2011; Biglan, Layton, Backen Jones, Hankins, & Rusby., 2013; McConachie, McKenzie, Morris & Walley., 2014). Four studies were quasi experimental studies, one a multiple baseline time-series design (Gore & Smith, 2012), two were non-randomised controlled trials (Stafford-Brown & Pakenham, 2012; Noone & Hastings, 2009) and one employed a single group pre-post intervention design (Noone & Hastings, 2010).

Participants were recruited from a variety of settings. Six studies involved staff working in intellectual disability services of which four were in residential settings (Gore & Smith, 2012; Thomas, 2011), one involved staff working in a special education setting (Biglan et al., 2013) and the other involved care workers, though details of the setting were not provided (McConachie et al., 2014). Two studies recruited student healthcare professionals from universities; one involved trainee clinical psychologists (Stafford-Brown & Pakenham, 2012) and the other involved student nurses (Frögéli et al., 2016).

The papers are synthesised and critiqued in relation to the interventions, measures and findings.

### *Overview of selected studies*

The studies are presented in chronological order for the overview and within the summary table.

Altbo and Nordin (2007) randomly allocated 32 participants to a three-session intervention condition (n=18) or to a control condition (n=14) to determine the impact of an ACT intervention with school teachers (primary and secondary). A standardised measure was used to evaluate the impact of the intervention on perceived stress.



Noone and Hastings (2009) allocated 28 participants to a two-session group intervention condition (n=22) or a waiting list control condition (n=6) to examine the impact of an ACT intervention with support staff working in residential ID settings. A standardised measure was used to evaluate the impact of the intervention on perceived work stressors.

Noone and Hastings (2010) investigated the effectiveness of a two-session group intervention with 34 participants working in residential ID settings. A standardised measure was used to evaluate the impact of the intervention on perceived work stressors.

Brinkborg et al. (2011) randomised 106 social workers to a four-session group intervention condition (n=70) or a waiting list control condition (n=36). The impact of the intervention was assessed using a standardised measure of perceived stress.

Thomas (2011) randomised 27 residential care staff to either an individual intervention condition (n=13) or a control condition (n=14). Standardised measures were used to evaluate the impact of self-help booklet on perceived stress and perceived work stressors.

Gore and Smith (2012) allocated 62 participants to one of six groups to receive an ACT intervention. A standardised measure was used to evaluate the impact of the intervention on perceived work stressors with support staff working in ID services.

Stafford Brown and Pakenham (2012) allocated 56 trainee clinical psychologists to either a four-session group intervention condition (n=28) or a waiting list control condition (n=28). A standardised measure was used to evaluate the impact of the intervention on work related stress.

Biglan et al. (2013) randomised 42 participants to an immediate intervention group (n=23) and delayed intervention group (n=19) to determine the impact of a two-session intervention with Early years special education staff. A standardised measure was used to evaluate the impact of the intervention on teaching stress.

McConachie et al. (2014) randomised 120 direct care staff to either a workshop intervention condition (n=66) or to a wait list control condition (n=54) and examined the impact of a two-session intervention with direct care staff working in intellectual disability services. A standardised measure was used to evaluate the impact of the intervention on perceived work stressors.

Frögéli et al. (2016) randomised 113 nursing students to either a six-session group intervention condition (n=69) or active control condition (n=44). A standardised measure was used to evaluate the impact of the intervention on perceived stress.

| <b>Table 1: An overview of study characteristics</b> |  |  |                                |  |   |   |
|--|--|--|--------------------------------|--|---|---|
| <b>Reference and country</b>                         | <b>Design, participants &amp; sample size</b>                      | <b>Intervention</b>  | <b>Measures</b>                | <b>Outcome</b>   | <b>Strengths</b>  | <b>Limitations</b>  |
| Altbo and Nordin (2007), Sweden                      | RCT, school teachers<br>Intervention n=18<br>Control n=14          | ACT group: 4x3h sessions (four-week break between session 2 and 3).<br>Homework tasks= mindfulness, defusion and acceptance practice | PSS (Cohen et al., 1983)       | Non-significant decrease ( $p = .50$ ) in perceived stress for ACT group at post intervention        | Full intervention protocol provided within the paper.<br>Number lost to follow up provided along with reasons for drop out. | Minimal information is given regarding the randomisation procedure.<br>Small sample is likely to have meant the study was underpowered.     |
| Noone and Hastings (2009), UK                        | NRCT<br>ID Residential care staff<br>Intervention=22<br>Control =6 | ACT workshops: 1 day + a half day six weeks later.<br>Homework task= mindfulness practice  | SSQ (Hatton et al., 1999)      | Non-significant increase ( $p = .35$ ) in perceptions of stressors for ACT group, post intervention. | Valid and reliable outcome measures.<br>Full intervention protocol is provided within the paper.                            | Fidelity to the intervention not assessed.<br>Did not provide effect sizes or confidence intervals.   |
| Noone and Hastings (2010), UK                        | Single group, pre-and post<br>ID Residential care staff<br>N=34    | ACT workshops: 1 day + a half day six weeks later<br>No homework tasks   | SSQ (Hatton et al., 1999)      | Non-significant decrease ( $p = .225$ , $d = .12$ ) in perceptions of stressors post intervention.   | Valid and reliable outcome measures.<br>Exact p values and effect sizes reported.   | Fidelity to the intervention not assessed.<br>Insufficient information to determine whether the sample is representative of the population. |
| Brinkborg, et al. (2011), Sweden                     | RCT, Social workers<br>Intervention n=70                           | ACT group: 4x3h fortnightly sessions   | Swedish Perceived Stress Scale | Significant decrease ( $p > .001$ , $d = 0.72$ )   | Attrition discussed and reasons for   | Minimal information provided about the intervention.  |

|  |   |   |  |   |  |   |
|--|---|---|--|---|--|---|
|  | Control n=36  | Homework tasks =mindfulness practice and physical exercise  | ([PSS] Eskin & Parr, 2006)   | at post intervention for ACT group.   | dropout are provided. Effect sizes and confidence intervals given alongside p values                                     | No evidence to suggest a power calculation was used to determine sample size.   |
| Thomas (2011), New Zealand                     | RCT, ID residential care staff<br>Intervention n=13<br>Control n=14   | ACT self-help book to complete over seven weeks. No homework tasks.   | SSQ (Hatton et al., 1999); PSS (Cohen, Kamarch & Mermelstein, 1983)  | Non-significant decrease ( $p = .08$ , $\eta^2 = .14$ ) in perceptions of stressors at post intervention for the ACT group.   |  | Small sample size is likely to have meant the study was underpowered. Randomisation procedure not reported.                                 |
| Gore and Smith (2012), UK                      | Multiple time series design, ID residential care staff<br>N=62  | ACT workshops: 1 day + a half day six weeks later. No homework tasks.   | SSQ (Hatton et al., 1999)  | Significant decrease in perceptions of stressors between: baseline - 3months ( $p = .04$ , $d = .36$ ), post intervention- 3 months ( $p = .00$ , $d = .54$ ) and, post intervention – 6 months ( $p = .007$ , $d = .51$ ). | Valid and reliable measures that were tailored to the context. Follow up assessments undertaken at three and six months. | High attrition rate that was not adjusted for in the analysis. No indication that participants were representative of the wider population. |
| Stafford-Brown and Pakenham, (2012), Australia | Non-randomised controlled trial (NRCT), Trainee Clinical Psychologists<br>Intervention n=28<br>Control n=28 | ACT group: 4x3h weekly sessions<br>Homework tasks = mindfulness, defusion and acceptance practice; reflections on values and noticing stress buttons. | Professional self-doubt subscale from Mental Health Professional Stress Scale (Cushway, Tyler & Norman, 1996). | Significant decrease ( $p = <.05$ , partial $\eta^2 = .08$ ) in professional self-doubt for ACT group at post intervention.   | Baseline characteristics were consistent between each group. Very low attrition rate.                                    | Follow up assessments undertaken with the intervention group only. Intervention fidelity not assessed.                                      |

|                                |   |   |   |  |   |   |
|--------------------------------|---|---|---|--|---|---|
| Biglan et.al. (2013) USA       | RCT, Early Childhood Special Education Staff<br>Immediate intervention n=23<br>Delayed intervention =19 | ACT workshop: 2x 3.5-hour sessions (2-3 week break between sessions)<br>Homework tasks= mindfulness practice and committed actions  | Teacher characteristics subscale from the Index of Teaching Stress (Greene, Abidin & Kmetz, 1997) | Significant decrease in teaching stress ( $p < .001$ ) for immediate and delayed intervention group. | Good overview of context and settings. Full protocol is included within the paper.                                | Insufficient information regarding the randomisation procedure. No information provided about the participants.   |
| McConachie et al. (2014), UK   | RCT, ID Care workers<br>Intervention n=66<br>Control n=54   | Acceptance and Mindfulness workshop: 1 day + a half day 6 weeks later<br>Homework task= mindfulness practice  | Staff Stressor Questionnaire ([SSQ] Hatton et al., 1999)  | Data not reported.   | Valid and reliable outcome measure. Numbers lost to follow up are accounted for in the analysis.                  | Did not report the findings. High levels of attrition across both groups with reasons for attrition not provided.   |
| Frögéli, et al. (2016), Sweden | RCT, Nursing students<br>Intervention n=69<br>Control n=44  | ACT Group 6x2h weekly sessions (ACT + lifestyle education + communication skills + self-acceptance/ self-compassion)<br>Homework tasks = mindfulness, defusion and acceptance practice; reflections on values and undertaking committed action. | Swedish PSS (Eskin & Parr, 2006)  | Significant decrease ( $p < .001$ , $d = 0.58$ ) at post intervention for ACT group.                 | Power calculation used to determine sample size. Intervention clearly described with a hyperlink to the protocol. | Participants in the intervention condition could also attend the reflective groups provided for the control condition. Reasons for drop out have not been provided. |

## *Interventions*

All interventions used metaphors, mindfulness practice and experiential exercises to demonstrate the six ACT processes and, to illustrate how participants might engage with them. Although this consistency supports the comparability of the studies to an extent, there are also considerable differences between the interventions studied.

There was some variation in the extent of resources provided to participants in support of their application of ACT processes to reduce stress; the number of sessions offered, the mode of intervention, and the provision of an action plan. The number of sessions ranged from two (McConachie et al. 2014; Gore & Smith, 2012, Noone & Hastings, 2009; Noone & Hastings, 2010; Biglan et al., 2013) to six (Frögéli et al. 2016). Although a greater number of sessions might not necessarily enhance the interventions' effectiveness, it could be that this provided participants with more opportunities to consolidate their understanding of ACT processes and to practice skills. Nine studies evaluated group interventions (McConachie et al. 2014; Gore & Smith, 2012, Noone & Hastings, 2009; Noone & Hastings, 2010; Biglan et al., 2013; Frögéli et al. 2016; Brinkborg et al. 2011; Altbo & Nordin, 2007; Stafford-Brown & Pakenham, 2012) and one study examined an individual intervention through the use of a self-help book (Thomas, 2011). Group interventions might help people to realise that their reactions to stress and/or strategies for coping with stress are not too dissimilar to those used by others, which could normalise their experience and, facilitate greater engagement with the intervention. Frögéli et al. (2016) provided participants with an Action Plan for maintaining the work life balance that was informed by acceptance and mindfulness techniques of their choice. An advantage of creating an action plan is that it encourages people to consider how they might implement new skills and strategies on a day to day basis to help facilitate behaviour change.

Studies varied in the extent to which they invited discussion about workplace stressors, reactions to stressors and the workability of existing coping strategies (effectiveness and costs), all of which arguably facilitate a context for change. Five studies indicated that all three of these activities had been undertaken (Altbo & Nordin, 2007; Frögéli et al., 2016; Noone & Hastings, 2009; Noone & Hastings, 2010; Stafford-Brown & Pakenham, 2012) though, neither of these studies explored the costs of existing coping strategies. Examining the cost of

avoidant/control based coping strategies is important because it provides some motivation to consider alternative (Hayes et al., 2012). One disadvantage of not including this final element during the initial discussions about coping is that participants may not be fully motivated to consider alternatives which could negatively impact on their ability to engage with the intervention. Four studies (Gore & Smith, 2012; Biglan et al., 2013; Noone & Hastings, 2009; Noone & Hastings, 2010) asked participants to discuss the stressors they encounter within their roles, and to explore the strategies used to cope with them. However, neither of these studies appeared to examine the workability of the strategies to manage these stressors. Examining the workability of existing strategies is a prerequisite for inviting willingness to engage with six ACT processes (Hayes et al., 2012); hence, one would expect this discussion to feature in all of the interventions. One consequence of not including this discussion as part of the intervention is that participants might not fully engage with the six ACT processes which could result in their intervention having little or no effect. The self-help book evaluated by Thomas (2011) did not instruct participants to consider their reactions to the stressors they encounter in their current roles; nor did it invite them to examine the workability of the strategies used to manage these stressors. One implication of this is that participants may not have acknowledged their behaviour as problematic, and thus struggled to identify the personal benefits of engaging with the ACT processes. This might have limited their capacity to meaningfully engage with the intervention and experience a positive outcome. Two of the studies (Brinkborg et al., 2011; McConachie et al., 2014) did not provide sufficient details of the intervention hence it is not known whether participants were given the opportunity to identify stressors, consider their reactions to them and examine the workability of existing coping strategies.

Some studies included additional content unrelated ACT. Frögéli et al. (2016) provided education on the impact of stress, sleep and exercise, and highlighted the importance of self-acceptance and self-compassion. Role play was used to cultivate skills in assertiveness and conflict management. The authors justified this additional content by referring to the findings of previous research that identified common stressors in nursing education. However, they neglected to elaborate on the nature of these stressors and did not explain how the intervention might address them. Brinkborg et al. (2011) added content to their sessions about communication and compassion, but did not include any rationale for doing this.

Stafford Brown and Pakenham (2012) highlighted the importance of self-compassion but again did not include a rationale for this. The addition of techniques to improve health, enhance communication skills and cultivate self-compassion might enhance the effectiveness of the aforementioned interventions. However, the inclusion of this content makes it difficult to determine the true impact of ACT, and thus limits comparability with other ACT interventions.

### *Measures*

Data was collected using self-report questionnaires. All studies clearly specified how stress was measured. Internal reliability was reported for each measure with alpha coefficients ranging from 0.7 (Thomas, 2011) to 0.9 (McConachie et al., 2014), this supports the validity of the measures used to assess stress.

The extent to which the measures utilised were applicable to the characteristics of the participants, varied between studies. Four studies (Gore & Smith, 2012; Noon & Hastings, 2009; Noone & Hastings, 2010; McConachie et al., 2014) used a measure which had previously been validated with individuals from the same country and occupational group as the participants – the Staff Stressor Questionnaire (Hatton et al., 1999). Three studies (Frögéli et al., 2016; Brinkborg et al., 2011; Altbo & Nordin, 2007) used a measure, the Swedish PSS (Eskin & Parr, 1996), which had previously been validated with individuals from Sweden. Though, this measure does not take account of the varying levels of the stress experiences by the different occupational groups. Three studies (Biglan et al., 2013; Stafford-Brown & Pakenham, 2012; Thomas, 2011) used the Staff Stressor Questionnaire (Hatton et al., 1999) which had been validated with individuals from the same occupational group as the participants. However, this measure had not been previously validated within the countries from which the participants had been sampled. One study (Thomas, 2011) used the PSS-10 (Cohen et al., 1983) which had not been validated with either individuals from the same country or occupational group. One disadvantage of using measures that have not been validated with a similar reference group is that participants may misinterpret the questions due to cultural or occupational differences that exist between different populations. This could result in inaccurate assessments of stress that do not represent the true outcome of the intervention.

There is no definitive method for assessing levels of stress. The measures of stress within the studies reviewed fell within two categories. Seven studies



assessed stress using questionnaires that measure perceptions of work place stress; of which five (McConachie et al., 1999; Gore & Smith, 2012; Thomas, 2011; Noone & Hastings, 2009; Noone & Hastings, 2010) utilised the Staff Stressor Questionnaire (Hatton et al., 1999). Stafford-Brown and Pakenham (2012) used the Professional Self Doubt subscale from the Mental Health Professional Stress Scale (Cushway, 1996). While Biglan et al. (2013) used the Teacher Characteristics subscale of the ITS (Greene, Abidin, & Kmetz, 1997) which measures the level of stress experienced by teachers in their interactions with students. The advantage of tailoring measures to participant's occupational roles is that this provides useful information about whether the intervention is having the intended effect on workplace stress. Four studies (Frögéli et al., 2016; Brinkborg et al., 2011; Thomas, 2011; Altbo & Nordin, 2007) employed the PSS (Cohen et al., 1983) which measures the extent to which a person perceives their life as stressful. Although, the PSS (Cohen et al., 1983) is not specifically targeted to workplace stress; it does capture overall levels of stress, and thus provides a useful indication as to how the intervention has impacted on participant's holistic levels of stress. While each measure of stress has its advantages, the variation in how stress is measured does limit the extent to which the outcome of interventions can be compared.

### *Findings*

Nine studies reported the outcome of the intervention. The extent to which participants' stress was reduced varied with five studies indicating a statistically significant decrease, and four studies indicating a non-significant decrease.

Four studies (Thomas, 2011; Alto and Nordin, 2007; Noone and Hastings, 2009; and Noone and Hastings. 2010) found a non-significant decrease for stress and just two reported effect sizes. Thomas (2011) found a large effect for perceptions of work stressors (partial  $\eta^2=.143$ ) and a medium effect for perceived stress ( $\eta^2 = .045$ ), while Noone and Hastings (2010) reported a small effect for perceptions of work stressors ( $d = .12$ ). The participants in the study undertaken by Thomas (2011) reported lower level of stress at baseline than those in the Noone and Hastings (2010) study. Hence the provision of a self-help book alone was sufficient enough to impact upon their level of stress. Equally, a two-session intervention delivered over the course of six weeks might not have been sufficient

to impact on the higher levels of stress reported by the participants in the Noone and Hastings (2010) study.

Five studies reported a significant decrease in stress (Stafford-Brown & Pakenham, 2012; Biglan et al., 2013; Frögéli et al., 2016; Brinkborg et al., 2011; Gore & Smith, 2012) and four reported effect sizes. Brinkborg et al., (2011) found a medium effect ( $d = .72$ ) for perceived stress as did Frögéli et al (2016), ( $d = .58$ ). The effect found by Gore and Smith (2012) varied over time between small ( $d = .36$ ) and medium ( $d = .54$ ). Stafford-Brown and Pakenham (2012) found a small effect (partial  $\eta^2 = .08$ ) for work related stress, though differences in the measures limits the extent to which the findings can be compared.

The five studies reporting a significant decrease in stress do not share a common characteristic, which differentiates them from the four other studies. Of the five studies that reported a significant decrease in stress, four studies recruited participants that occupied professional roles including students (teachers, student nurses, social workers). Further research is required to directly compare the effectiveness of ACT interventions with nonprofessional and professional groups.

Two studies conducted further analysis to examine differences between subgroups of participants. Brinkborg et al. (2011) found that participants with high levels of stress at baseline (a score of 24.4 or above on the PSS) experienced a significant decrease ( $p = .01$ ,  $d = .75$ ) in perceived stress, relative to the control group. While a marginally significant decrease ( $p = .05$ ,  $d = 1.09$ ) was found for participants reporting low levels of stress at baseline. This indicates that the intervention used is more effective for individuals with high existing levels of stress. However, the authors acknowledge that the large effect observed within the 'low stress' group could be attributed to a smaller sample size and thus low statistical power. Frögéli et al. (2016) found that a large effect size ( $p < .001$ ,  $d = 1.12$ ) for participants who had attended at least three out of the six sessions ( $n = 29$ ) which is inconsistent with the outcome for the whole sample. It could be that the impact of the intervention was moderated by the number of sessions attended. Although, it might also be that this subgroup of participants found the intervention more beneficial and, therefore, continued to participate.

Only three of the included studies conducted follow up assessments to investigate the long-term impact of the interventions though the results lack consistency. Stafford-Brown and Pakenham (2012) found a non-significant difference in scores

for work related stress at ten weeks follow up. While Frögéli et al. (2016) found a significant decrease ( $d=0.32$ ) in perceived stress at three months follow up. Similarly, Gore and Smith (2012) also found a significant decrease ( $d=0.54$ ) at three months follow up. It might be that participants require more time to become acquainted with utilising acceptance, mindfulness and values based action within the workplace in order for the intervention to impact on levels of stress.

### *Methodological quality*

The robustness of the evidence was examined using a critical appraisal tool specifically designed to assess the methodological quality of RCTs and quasi experimental studies (see table 2). Overall, none of the included studies fully met all of the appraisal criteria which raises concerns about the strength of evidence. The number of criteria that were fully met ranged from five to eleven with a mean of eight, for RCTs. Of the four-remaining quasi experimental studies, the number of criteria that were fully met ranged from seven to eight out of the possible criteria relevant; which ranged from ten (Noone and Hastings, 2010) to eleven relevant criteria (Gore & Smith; 2012; Stafford-Brown & Pakenham, 2012; and Noone and Hastings, 2009).

### *Design*

All studies provided clear aims and objectives which orients the reader. Six studies were RCTs which are considered to be the 'gold standard' of intervention research because of the extent to which the risk of bias and confounding variables is managed by internal controls (Evans, 2003). Each of the six studies stated that participants had been randomly allocated to groups, this reduces the possibility of selection bias (systematic differences between baseline characteristics of compared groups). However, if the allocations are not concealed, selection bias remains, with participants or study personnel potentially influencing group allocation. This appears to have been the case for McConachie et al. (2014), as ten participants changed between the intervention and control groups after the original allocation.

Two of the RCTs utilised active control groups. Frögéli et al. (2016) asked participants to attend two, three-hour reflection seminars focusing on personal and professional development. While Altbo and Nordin (2007) provided a three hour 'stress lecture' that explored the origins of stress and useful coping strategies. The use of active control groups enabled researchers to determine whether the

**Table 2: Outcome of methodological quality assessment**

Note. Y = criteria fully met N = criteria not fully met N/A=Not applicable

|                                     | C1 | C2 | C3 | C4  | C5  | C6  | C7  | C8  | C9 | C10 | C11 | C12 | C13 | C14 | C15 |
|-------------------------------------|----|----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|
| <b>Randomised Controlled Trials</b> |    |    |    |     |     |     |     |     |    |     |     |     |     |     |     |
| Brinkborg et al. (2011)             | Y  | N  | Y  | Y   | Y   | N   | Y   | Y   | Y  | Y   | Y   | Y   | Y   | N   | N   |
| Frögéli et al. (2015)               | Y  | N  | N  | Y   | Y   | N   | N   | Y   | N  | Y   | Y   | Y   | Y   | Y   | Y   |
| McConachie et al. (2014)            | Y  | Y  | N  | Y   | N   | N   | N   | Y   | N  | Y   | N   | Y   | Y   | N   | N   |
| Biglan et al. (2013)                | Y  | N  | N  | Y   | N   | N   | N   | N   | N  | Y   | N   | Y   | Y   | N   | N   |
| Thomas, (2011)                      | Y  | Y  | N  | Y   | N   | N   | N   | Y   | Y  | Y   | N   | Y   | N   | Y   | N   |
| Altbo & Nordin, (2009)              | Y  | N  | N  | Y   | N   | N   | N   | Y   | Y  | Y   | Y   | Y   | N   | N   | N   |
| <b>Quasi experimental studies</b>   |    |    |    |     |     |     |     |     |    |     |     |     |     |     |     |
| Stafford Brown and Pakenham (2012)  | Y  | N  | N  | N/A | N/A | N/A | N/A | Y   | N  | Y   | Y   | Y   | Y   | Y   | N   |
| Gore and Smith (2012)               | Y  | N  | N  | N/A | N/A | N/A | N/A | Y   | Y  | Y   | Y   | Y   | N   | Y   | N   |
| Noone and Hastings (2009)           | Y  | N  | N  | N/A | N/A | N/A | N/A | Y   | N  | Y   | N   | Y   | N   | Y   | N   |
| Noone and Hastings (2010)           | Y  | N  | N  | N/A | N/A | N/A | N/A | N/A | N  | Y   | N   | Y   | N   | Y   | N   |

ACT intervention was similar, more, or less effective to pre-existing forms of stress management (reflective groups, education and advice on coping with stress). However, in the study undertaken by Frögéli et al. (2016) those in the intervention group were also permitted to attend the reflective groups provided for the active control group. This might have provided them with additional coping strategies and thus acted as a confounding variable.

Four studies were unable to randomly allocate participants to either a control or intervention group as this conflicted with the convenience and availability of participants. As a result, quasi-experimental designs were utilised to evaluate the impact of the intervention. However, the absence of randomisation limits the extent to which bias and confounding variables can be controlled for which significantly impacts on the rigor of the study.

#### *Participants, sample and settings*

Participants were employed in a variety of occupational settings which limits comparability. Brinkborg et al. (2011) was the only study to indicate the extent to which the sample was similar to the target population in relation to age, sex and term of employment. Additional information was provided about years of employment and average working hours which could influence participants' experience of stress, and thereby act as confounding variables. The absence of such information across the remaining studies prevents the reader from identifying whether important characteristics are representative of study populations or acted as confounders, making it difficult to determine the generalisability of findings.

#### *Standardisation and fidelity*

Information pertaining to the main components of the intervention varied between studies. Some studies provided minimal information; for example, Brinkborg et al. (2011) described the theme of each session but did not elaborate on the content. Others such as those conducted by Noone and Hastings (2009) provided full protocols which enables appraisal and replicability. One study (Brinkborg et al. 2011) measured fidelity to the intervention by completing a checklist after every session. The authors stated that the manual was adhered to at every session, hence fidelity was upheld.

## *Analysis*

Of the eight papers reviewed, Frögéli et al. (2016) was the only study to outline the power or sample size required for their study. The remaining papers did not include a power analysis which is particularly concerning given the low number of participants in some of the studies. Hence, it is plausible to consider that some of the studies lacked statistical power which limited their ability to detect a significant effect where one exists, resulting in a type two error.

Eight studies stated the number of participants that were lost to follow up, of which four (Gore & Smith, 2012; McConachie et al., 2014; Frögéli et al., 2016; Thomas, 2011) reported a loss of over 20% which raises significant concern about the validity of the findings (Schulz & Grimes, 2002). Two of four studies accounted for participants lost to follow up by adjusting their analyses, though there were differences in the chosen method. Frögéli et al. (2016) utilised intention to treat analysis which meant all participants were in the analysis regardless of whether they completed follow up measures or not. However, no indication was given as to how they addressed the missing data, thus preventing replication and appraisal. McConachie et al (2014) opted to replace missing data using expectation maximisation. The remaining two studies (Gore & Smith, 2012; Thomas, 2011) did not address the impact of attrition. Furthermore, neither study provided sufficient details regarding the characteristics of those that were lost to follow up which limits the ability to draw firm conclusions about the findings.

The provision of data relating to the precision of findings varied across studies. Of the ten studies reviewed, only one (Brinkborg et al., 2011) reported exact p values and confidence intervals. Seven of the remaining studies reported exact p values (Gore & Smith, 2012; Noone & Hastings, 2009; Noone & Hastings, 2010; Biglan et al., 2013; Thomas, 2011; Altbo & Nordin, 2007; Frögéli et al., 2016) while two (McConachie et al., 2014; Stafford-Brown & Pakenham, 2012) neglected to report both exact p values and/or confidence intervals. The lack of consistency in reporting exact p values and confidence intervals limits the credibility of the findings and further reduces the strength of evidence.

## DISCUSSION

This aim of this review was to examine the available evidence concerning the effectiveness of ACT interventions for reducing stress within the helping professions. Of the ten studies reviewed, five reported a statistically significant decrease in stress. Three of which reported a significant decrease in stress at post intervention (Frögéli et al., 2016; Brinkborg et al., 2011; Stafford-Brown & Pakenham, 2012) with effect sizes ranging from small to medium. One study found a significant decrease in stress over time, though the effect size was not provided (Biglan et al., 2013). While another study did not find a significant decrease in stress until three months follow up (Gore & Smith, 2012).

None of the papers included in this review met all of the quality criteria which raises concerns about the impact of bias and confounding variables on study outcomes. However, the overall scores for quality varied between studies with some scoring higher than others. Two papers were identified as having the highest scores for quality (Brinkborg et al., 2011; Frögéli et al., 2016). Both were RCTs which eliminate bias and enhance rigor. However, unlike the RCTs undertaken by McConachie et al., (2014), Biglan et al. (2013), Thomas, (2011) and Altbo & Nordin, (2007); the studies conducted by Brinkborg et al. (2011) and Frögéli et al. (2016) were consistent in utilising RCT methods such as allocation concealment and intention to treat analysis. It is also worth noting that both of these studies reported a significant decrease in stress with medium effect sizes. Of the three studies that scored the lowest, two were quasi experimental studies (Noone & Hastings, 2009; Noone & Hastings, 2010) and one was an RCT (Biglan et al., 2013). Unlike the quasi experimental studies conducted by Gore & Smith, (2011) and Stafford-Brown & Pakenham, (2012); each of the papers written by Noone and Hastings (2009, 2010) showed consistent weaknesses' in the areas of quality relating to the sample such as adjustment for confounders and loss to follow up. Finally, the study undertaken by Biglan et al. (2013) was marked by a range of weakness' relating to the sample, application of RCT methodology and reporting of outcomes.

### *Strengths and limitations*

While all participants worked in the 'helping profession'. It is also important to recognise that the participants were from range of occupational groups and

worked in a variety of settings. The outcome of this review should be interpreted with caution as the findings are likely to have been confounded by differences in roles and responsibilities.

The author identified papers from a wide range of sources including the grey literature. Two unpublished theses were included in this review which is likely to have minimised publication bias to some extent. The research supervisor was consulted in cases where there was ambiguity regarding the inclusion of specific papers. However, cross checking the full set of papers might have afforded greater confidence in the papers selected for this review.

It is important to acknowledge that the assessment of methodological quality was solely based on the information presented in the paper. Hence, it might be that the low rating observed in some of studies is an artefact of reporting as opposed to a methodological weakness.

#### *Implications for future research*

A greater number of high quality studies is needed to investigate the effectiveness of ACT with the various occupational groups within the helping professional's population. Variables such as work setting, working hours, roles and responsibilities are likely to influence a person's level of stress. It is important to collect baseline data on the above variables in order to discern applicability. Furthermore, following the findings of the studied undertaken by Brinkborg et al. (2011), researchers might also consider examining the relationship between baseline levels of stress and intervention outcome. This might provide further knowledge as to who is likely to experience the greatest benefit from ACT interventions. Additionally, given the medium to large effects observed by Thomas (2011), it is also recommended that future research investigate the effectiveness of ACT self-help books. It is unfortunate that follow up assessments were only undertaken in three of the ten studies. Examining the long-term impact of ACT could provide valuable information about the amount of time needed to master and apply skills learnt during the intervention. Finally, it is also recommended that future studies perhaps consider the wider impact of ACT interventions by utilising measures of and sickness absence, for example, to evaluate the impact of ACT interventions at an organisational level.



### *Implications for clinical practice*

This review has highlighted some interesting points in relation to how ACT stress management interventions might be delivered. The majority of interventions were delivered within groups, providing plenty of opportunities for discussion which may facilitate cohesion and enhance engagement. However, facilitators will need to negotiate times and dates with employers to ensure the intervention is convenient and accessible for all who wish to attend. It is important to begin the intervention by encouraging participants to explore the workability of existing coping strategies; this is likely to foster a willingness to consider alternative ways of coping which is essential for engagement. The inclusion of additional content relating to improving lifestyle (sleep, exercise), enhancing communication skills and cultivating self-compassion may complement ACT and is worthy of consideration. However, some of this content originates from prior research undertaken with specific occupational groups. Hence, inclusion of this material is likely to be at the facilitator's discretion. Finally, the addition of homework tasks such as mindfulness practice is likely to consolidate learning and perhaps develop a sense of mastery in applying new skills.

### **CONCLUSION**

The aim of this review was to examine the effectiveness of ACT interventions in reducing workplace stress with the helping professions. The findings appear promising; though, the variability in occupational groups, methodological quality and measures of stress limit the extent to which one can draw firm conclusions regarding the effectiveness of the interventions. Further research is needed to replicate these findings within the various occupational groups to provide a more definitive answer regarding the effectiveness of this intervention.

## REFERENCES

Altbo, S. & Nordin, L. (2007). *A randomized study of Acceptance & Commitment Therapy (ACT) for stressed teachers*. Unpublished manuscript, Department of Psychology, Lund University, Lund, Sweden.

Biglan, A., Layton, G. L., Jones, L. B., Hankins, M., & Rusby, J. C. (2013). The value of workshops on psychological flexibility for early childhood special education staff. *Topics in early childhood special education, 32*(4), 196-210. doi: 10.1177/0271121411425191

Bond, F. W. & Hayes, S. C. (2002). Acceptance and Commitment Therapy at Work. In Bond, F.W. & Dryden, W. (Eds.) *Handbook of Brief Cognitive Behaviour Therapy* (pp.117-139). Chichester: Wiley. Retrieved from [https://contextualscience.org/publications/bond\\_hayes\\_2002](https://contextualscience.org/publications/bond_hayes_2002)

Burton, A., Burgess, C., Dean, S., Koutsopoulou, G. Z., & Hugh-Jones, S. (2016). How Effective are Mindfulness-Based Interventions for Reducing Stress Among Healthcare Professionals? A Systematic Review and Meta-Analysis. *Stress and Health*.doi:10.1002/smi.2673

Brinkborg, H., Michanek, J., Hesser, H., & Berglund, G. (2011). Acceptance and commitment therapy for the treatment of stress among social workers: A randomized controlled trial. *Behaviour Research and Therapy, 49*(6), 389-398. doi: 10.1016/j.brat.2011.03.009

Chaplain, R. P. (2008). Stress and psychological distress among trainee secondary teachers in England. *Educational Psychology, 28*(2), 195-209. doi: 10.1080/01443410701491858

Chartered Institute for Personal Development. (2016). *Absence Management 2016*. Retrieved from [https://www.cipd.co.uk/Images/absence-management\\_2016\\_tcm18-16360.pdf](https://www.cipd.co.uk/Images/absence-management_2016_tcm18-16360.pdf)

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of health and social behaviour, 24*(4), 385-396.

Cooper, C. L., Dewe, P. J., & O'Driscoll, M. P. (2001). *Organizational stress: A review and critique of theory, research, and applications*. California: Sage.

Cushway, D., Tyler, P. A., & Nolan, P. (1996). Development of a stress scale for mental health professionals. *British Journal of Clinical Psychology*, 35(2), 279-295.

Critical Appraisal Skills Programme (2017). *CASP Randomised Controlled Trial Checklist*. Retrieved from

[http://media.wix.com/ugd/dded87\\_4239299b39f647ca9961f30510f52920.pdf](http://media.wix.com/ugd/dded87_4239299b39f647ca9961f30510f52920.pdf)

Dickersein, K. (1990). The existence of publication bias and risk factors for its occurrence. *Journal of the American Medical Association*, 263(10), 1385-1389. doi:10.1001/jama.1990.03440100097014

Downs, S. H., & Black, N. (1998). The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *Journal of epidemiology and community health*, 52(6), 377-384. Retrieved from

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1756728/>

Dwan, K., Altman, D. G., Arnaiz, J. A., Bloom, J., Chan, A. W., Cronin, E., ... & Gherzi, D. (2008). Systematic review of the empirical evidence of study publication bias and outcome reporting bias. *PloS one*, 3(8), e3081.10.1371/journal.pone.0003081

Edwards, D., & Burnard, P. (2003). A systematic review of stress and stress management interventions for mental health nurses. *Journal of advanced nursing*, 42(2), 169-200. doi: 10.1046/j.1365-2648.2003.02600.x

Eskin, M., & Parr, D. (1996). *Introducing a Swedish version of an instrument measuring mental stress*. Unpublished manuscript, Department of Psychology, Stockholm University, Sweden.

Evans, D. (2003). Hierarchy of evidence: a framework for ranking evidence evaluating healthcare interventions. *Journal of clinical nursing*, 12(1), 77-84. doi:10.1046/j.1365-2702.2003.00662.x

Fincham, R., & Rhodes, P. (2005). *Principles of Organisational Behaviour*. New York: Oxford University Press.

Frögéli, E., Djordjevic, A., Rudman, A., Livheim, F., & Gustavsson, P. (2016). A randomized controlled pilot trial of Acceptance and Commitment Training (ACT) for preventing stress-related ill health among future nurses. *Anxiety, Stress, & Coping*, 29(2), 202-218. doi: 10.1080/10615806.2015.1025765

Graf, E. M., Sator, M., & Spranz-Fogasy, T. (Eds.). (2014). *Discourses of helping professions* (Vol. 252). John Benjamins Publishing Company.

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment*, 36 (4), 41-54 doi: 10.1023/B:JOBA.0000007455.08539.94.

Greene, R. W., Abidin, R. R., & Kmetz, C. (1997). The Index of Teaching Stress: A measure of student-teacher compatibility. *Journal of school psychology*, 35(3), 239-259. doi: 10.1016/S0022-4405(97)00006-X

Hatton, C., Rivers, M., Mason, H., Mason, L., Kiernan, C., Emerson, E., ... & Reeves, D. (1999). Staff stressors and staff outcomes in services for adults with intellectual disabilities: The Staff Stressor Questionnaire. *Research in Developmental Disabilities*, 20(4), 269-285. doi: 10.1016/S0891-4222(99)00009-8

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1-25. doi: 10.1016/j.brat.2005.06.006

Hayes, S. C., & Smith, S. (2005). *Get out of your mind and into your life: The new acceptance and commitment therapy*. California: New Harbinger Publications.

Hayes, SC., Strosahl, K.D., & Wilson, K.G. (2012). *Acceptance and Commitment Therapy: The Process and Practice of Mindful Change*. New York: The Guildford Press.

McConachie, D. A. J., McKenzie, K., Morris, P. G., & Walley, R. M. (2014). Acceptance and mindfulness-based stress management for support staff caring for individuals with intellectual disabilities. *Research in Developmental Disabilities, 35*(6), 1216-1227. doi: 10.1016/j.ridd.2014.03.005

Michie, S., & Williams, S. (2003). Reducing work related psychological ill health and sickness absence: a systematic literature review. *Occupational and environmental medicine, 60*(1), 3-9. doi:10.1136/oem.60.1.3

National Institute for Health and Care Excellence. (2009). *Mental wellbeing at work (Public health guideline:PH22)*. Retrieved from <https://www.nice.org.uk/guidance/ph22>.

Noone, SJ and Hastings, RP (2009). Building psychological resilience in support staff caring for people with intellectual disabilities: Pilot evaluation of an acceptance-based intervention. *Journal of Intellectual Disabilities, 13*(1), 43–55. doi:10.1177/1744629509103519

Noone, S. J., & Hastings, R. P. (2010). Using acceptance and mindfulness-based workshops with support staff caring for adults with intellectual disabilities. *Mindfulness, 1*(2), 67-73. doi: 10.1007/s12671-010-0007-4

Office for National Statistics. (2016). *LFS - Labour Force Survey - Self-reported work-related ill health and workplace injuries*. Retrieved from <http://www.hse.gov.uk/statistics/lfs/>.

Öst, L. G. (2008). Efficacy of the third wave of behavioural therapies: A systematic review and meta-analysis. *Behaviour Research and Therapy, 46*(3), 296-321.

Öst, L. G. (2014). The efficacy of acceptance and commitment therapy: an updated systematic review and meta-analysis. *Behaviour Research and Therapy*, *61*, 105-121.

Perrewe, P. L., Rosen, C. C., & Halbesleben, J. R. (Eds.). (2013). *The Role of Emotion and Emotion Regulation in Job Stress and Well Being*. Yorkshire: Emerald Group Publishing.

Perseus, K. I., Kåver, A., Ekdahl, S., Åsberg, M., & Samuelsson, M. (2007). Stress and burnout in psychiatric professionals when starting to use dialectical behavioural therapy in the work with young self-harming women showing borderline personality symptoms. *Journal of psychiatric and mental health nursing*, *14*(7), 635-643. doi: 10.1111/j.1365-2850.2007.01146.x

Rose, J., Jones, F., & Fletcher, B. (1998). Investigating the relationship between stress and worker behaviour. *Journal of Intellectual Disability Research*, *42*(2), 163-172. doi: 10.1046/j.1365-2788.1998.00115.x

Ruiz, F. J. (2012). Acceptance and commitment therapy versus traditional cognitive behavioural therapy: A systematic review and meta-analysis of current empirical evidence. *Revista Internacional de Psicología y Terapia Psicológica*, *12*(3), 333-357.

Schulz, K. F., Altman, D. G., & Moher, D. (2010). CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. *BMC medicine*, *8*(1), 18. doi: 10.1186/1741-7015-8-18

Schulz, K. F., & Grimes, D. A. (2005). Sample size calculations in randomised trials: mandatory and mystical. *The Lancet*, *365*(9467), 1348-1353.

Smith, M. P., & Gore, N. J. (2012). Outcomes of a 'Train the Trainers' approach to an acceptance based stress intervention in a specialist challenging behaviour service. *International Journal of Positive Behavioural Support*, *2*(1), 39-48.

Retrieved from

<https://www.researchgate.net/publication/263137747> Outcomes of a 'Train the Trainers' approach to an acceptance based stress intervention in a specialist challenging behaviour service

Stafford-Brown, J., & Pakenham, K. I. (2012). The effectiveness of an ACT informed intervention for managing stress and improving therapist qualities in clinical psychology trainees. *Journal of clinical psychology, 68*(6), 592-513. doi: 10.1002/jclp.21844

Thomas, L. P. (2011). *The use of a Self-Help book based on Acceptance and Commitment Therapy: To improve General Well-being and Reduce Stress among Support Workers in Disability Sector*. Unpublished manuscript, University of Waikato, Hamilton, New Zealand.

## **APPENDICES**

### **Appendix 1: Questions for examining methodological quality**

1. Did the study ask a clearly-focused research question?
2. Were the eligibility criteria clearly described?
3. Were the participants' representative of the entire population from which they were recruited?
4. Were participants randomly allocated to groups?
5. Was the randomised intervention assignment concealed from both participants and health care staff until recruitment was complete and irrevocable
6. Was an attempt made to blind study participants?
7. Was an attempt made to blind those administering the intervention, where relevant?
8. Were baseline differences between groups identified?
9. Were the precise details of the interventions given for each group including how and why they were administered including components, standardisation and adherence?
10. Were the outcomes pre-specified and clearly defined including how and when they were assessed?
11. Have characteristics of those participants lost to follow up been described?
12. Were the statistical tests used to assess main outcomes appropriate?
13. Was there adequate adjustment for confounders from which the main findings were drawn?
14. Were the results for each group given for each outcome including p values, effect size, mean/standard deviations?
15. Did the study have enough participants to minimise play of chance?



## **Appendix 2: Author guidelines**

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We welcome the following varieties of paper:

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## **Paper 2: Research report**

**The Acceptance and Commitment (ACT) processes as predictors  
of perceived stress in Trainee Clinical Psychologists.**

Word count: 6437(excluding references and appendices)

## **ABSTRACT**

Trainee clinical psychologists are exposed to multiple stressors across clinical, academic and research contexts. Previous research suggests this places them at an increased risk of developing stress related mental health problems.

Acceptance and Commitment Therapy (ACT) could provide a useful framework for building resilience in trainees as the focus is on reducing avoidant coping, teaching adaptive emotional regulation strategies and encouraging values directed behaviour. The present study investigated the relationship between the ACT processes and perceived stress in 101 trainee clinical psychologists. A hierarchical multiple regression indicated that committed action was the most significant predictor of perceived stress. Values and contact with the present moment were negatively related to perceived stress and, cognitive fusion was positively related to stress. Acceptance and self as context were not significant predictors. Implications for embedding ACT within clinical psychology programs are discussed as well as suggestions for future research.

Keywords: Acceptance and Commitment therapy (ACT), self-care, stress and trainee clinical psychologists

## INTRODUCTION

Stress can be defined as a psychological state in which a person experiences unpleasant emotions (including thoughts, feelings and physiological sensations) in response to a demanding or adverse situation (Cox, 1978). Research suggests that 22-39% of mental health workers experience clinically significant levels of stress (Johnson et al., 2012). Individuals experiencing high levels of stress are at increased risk of developing physical and mental health problems (Nixon, Mazzola, Bauer, Krueger & Spector, 2011; Wiegner; Hange; Björkelund & Ahlborg, 2015); and, they are also more likely to take sick leave (West, Dawson, Adamaschew and Topakas (2011). Staff working in services with high levels of sickness absence are likely to experience low morale and increased stress as a consequence of taking on additional responsibilities (Bowers, Allan, Simpson, Jones, & Whittington, 2009; Totman, Hundt, Wearn, Paul & Johnson, 2011). At an organisational level, the annual cost of employing agency staff to cover sickness absence is estimated to be £1.45 billion in the NHS (Boorman, 2009).

Previous research suggests that trainee clinical psychologists are at an increased risk of developing stress related mental health problems. Robinson, (2015) surveyed 221 trainees enrolled on U.K. training programs and found that 36% reported clinically significant levels stress. Trainees might be particularly vulnerable to experiencing stress since the nature of clinical training involves significant exposure to multiple stressors across clinical, research and academic contexts including: high workload, travelling, poor supervision, completing assignments, client difficulties/distress and beliefs about 'not being good enough' (Galvin & Smith, 2015; Cushway, 1992, Nelson, Dell'Oliver, Koch & Buckler, 2001). Training courses within the UK are required to equip trainees with the necessary skills to navigate the stressors they encounter through training (BPS, 2016). However as yet, there is no formal guidance for teaching self-care or managing stress.

Maladaptive coping strategies are behaviours that temporarily reduce symptoms of stress by avoiding the stressor though; long term use can have a negative impact on functioning. Kuyken, Peters, Powers, Lavender & Rabe-Hesketh (2000) conducted a longitudinal study to investigate the difficulties experienced by 167

UK trainees throughout clinical training. The findings indicated that those using maladaptive coping strategies such as denial, wishful thinking and venting were more likely to experience low self-esteem, depression and conflict with supervisors or colleagues. A follow up study suggested that trainees using this form of coping also reported decreases in work satisfaction, motivation and job performance over the three years of training. Avoidance coping also had an indirect effect on learning via low self-esteem and depression; both of which are related to lower levels of 'deep learning' (Kuyken, Peters, Power & Lavender, 2003). The studies described above indicate the potentially harmful effects of avoidance based coping strategies which has implications for interventions that could be used to reduce stress in trainees.

Acceptance and Commitment Therapy (ACT) is a third wave cognitive behavioural therapy that aims to increase psychological flexibility that is, the ability to contact the present moment and to persist or change in behaviour in services of one's person values (Hayes, Strosahl & Wilson, 2012). ACT seeks to develop psychological flexibility through six core processes: (i) acceptance is a process that involves developing a willingness to experience thoughts, feelings and sensations, (ii) cognitive defusion is the process of reducing the literal quality of thoughts thus weakening the tendency to treat thoughts as truths (e.g. 'I'm not good enough') rather than what it is directly experienced to be (e.g. 'I'm having the thought that I'm not good enough'), (iii) contacting the present moment involves developing a non-judgemental awareness of internal (thoughts, feelings, sensations) and external events (e.g. sights sound, smells) as they occur (iv) self-as-context involves helping people to adopt an observer perspective on their experiences without becoming attached or invested in them, (v) values reflect what is meaningful and important in domains of our life e.g. family, health and work and (vi) committed action involves engaging in behaviours that are guided by one's chosen values.

When people are psychologically flexible, their behaviour is more likely to be guided by their values and goals as opposed to internal events. (Bond, Flaxman & Lloyd, 2016). However, an implication of acting flexibly is that at times, people will experience unwanted internal events (e.g. anxiety), while pursuing values-based goals. ACT emphasises the use of mindfulness skills to reduce influence of such

events on a person's ability to pursue their values-based goals (Hayes et al., 2012). Mindfulness within the context of ACT involves acceptance and cognitive defusion (being open) and, present moment awareness and self as context (being present) (Hayes, 2002; Harris, 2009). Meditation is one of many techniques used to develop mindfulness skills and involves learning how to notice, experience and allow unpleasant thoughts and feelings as ongoing mental events (Hayes et al., 2012). The practice of meditation requires regular engagement in exercises that facilitate mindful awareness of internal events as they occur within the body and mind (Segal, Teasdale & Williams, 2002; Kabat-Zinn, 1990). One possibility is that through regular meditation practice, individuals learn to become more present and more open to unwanted private events. This mindful pattern of responding to these events may facilitate psychological flexibility, enabling people to notice and act on available opportunities for values based action more often, rather than being fixated on avoiding unwanted experiences.

The ACT model has been supported by correlational studies, including meta-analyses, which explore the relationship between the ACT processes and measures of psychological wellbeing. Hayes et al. (2006) conducted a meta-analysis of 20 correlational studies examining the relationship between acceptance, committed action and measures of psychological wellbeing. Large effect sizes were found between scores on the aforementioned ACT processes and measures of depression ( $r = -.55$ ) and anxiety ( $r = -.52$ ). The higher the level of acceptance and values based committed action, the lower the level of psychological distress as measured on anxiety and depression rating scales.

Two studies have examined relationships between the ACT processes and wellbeing with samples of UK employees. Bond and Bunce (2003) examined the relationship between acceptance and job control (the ability to influence one's work environment in order to make it more rewarding and satisfying) and, job performance and psychological distress with 412 customer service centre workers. Acceptance emerged as a significant predictor of mental health and job performance over and above job control. Employees reporting a greater willingness to experience distressing thoughts and feelings in service of their personal values experienced better mental health and were also more likely to be effective at work as defined by a reduced number of computer errors. Donaldson

and Bond (2004) explored the relationship between acceptance and emotional intelligence (the ability to identify and regulate emotions) and, psychological distress, physical wellbeing and job satisfaction amongst 290 U.K workers (manual, clerical, and management). Acceptance was a significant predictor but emotional intelligence was not. As with the previous study, greater acceptance was related to lower psychological distress, better physical health and greater job satisfaction.

More recent studies have investigated the relationship between additional ACT processes with students and the general population. For example, Bardeen and Fergus (2016) found that acceptance, committed action and contact with the present moment were significantly related to lower levels of stress, while cognitive fusion (the opposite to cognitive defusion) was significantly related to higher levels of stress in a community sample of 955 adults. Gagnon, Dionne and Pychyl (2016) also found that cognitive fusion was related to higher levels of stress in a sample of 323 undergraduate students. The findings of these two studies provide some evidence of the theoretical links between the ACT processes and stress though, the ability to generalise these findings to trainees is likely to be limited by contextual differences.

The ACT model could be particularly relevant to trainees for a variety of reasons. Firstly, ACT explicitly focuses on identifying and reducing avoidant coping strategies (Hayes & Smith, 2005) which are related to high levels stress and impaired functioning in trainees (Cushway 1992; Kuyken et al., 200; Kuyken et al., 2003) Secondly, it teaches mindfulness and acceptance skills as an alternative to avoidance and, instead encourages awareness, acceptance and defusion from unhelpful emotions, thoughts and beliefs (Hayes, Luoma, Bond, Masuda & Lillis, 2006). This has been shown to be related to lower levels of distress in trainees (Myers, Sweeney, Popick, Wesley, Bordfeld & Fingerhut, 2012). Finally, the commitment and behaviour changes processes could potentially encourage trainees to practice adaptive coping strategies that reduce their levels of distress.

One study to date has examined the relationship between the ACT processes and stress in trainees. Pakenham (2015) investigated the relationship between acceptance, values, mindfulness and thought suppression and, measures of work

related stress and psychological distress in a sample of 116 first year Australian trainees. Thought suppression was the most significant predictor of stress followed by acceptance and mindfulness. Values was not a predictor of work related stress. Trainees who were more willing to experience distressing thoughts and feelings (acceptance) reported lower levels of work related stress, psychological distress and higher levels of life satisfaction. The findings provide partial support for applying the ACT model with trainees. However, additional research examining the relationship between each of the ACT processes (including committed action, cognitive defusion, self as context and contact with the present moment) and stress is needed to clarify the extent to which the model is wholly applicable to this occupational group.

In summary, trainees are exposed to multiple stressors that place them at an increased risk of developing stress related mental health problems. There is preliminary evidence to support the effectiveness of ACT stress management interventions with those working in the helping professions and one known study indicating partial support for the model with trainees. Differences in clinical psychology training between Australia and the UK limit the extent to which the findings of the previous study can be applied. In Australia, trainees complete one/two years of training at masters or doctoral level while UK trainees are required to undertake a three year professional doctorate programme. Clinical competencies are formally assessed via an oral or practical exam on Australian courses while UK trainees are observed in vivo. Also, total contact time with supervisors must be at least three hours a week (including supervision) for those studying on UK programmes, while in Australia, supervisors only required to meet with trainees for a minimum of one-hour week for supervision (British Psychological Society, 2016; Australian Psychological Society, 2013). The variation in clinical psychology training indicates significant differences in the trainee experience which could potentially influence levels of stress. Hence further research is needed to investigate the utility of ACT with trainees in the UK. The present study aims to investigate the relationship between the ACT processes and perceived stress. It is hoped that the findings will inform decisions regarding the use of ACT interventions to reduce stress in clinical psychology trainees. It is therefore hypothesised that:

- 1) Greater acceptance, more contact with the present moment, more valued living, more committed action, more self as context and less cognitive fusion predicts perceived stress in trainee clinical psychologists (while controlling for the effects of age, gender, year of training and meditation).
- 2) Cognitive fusion will be the most significant predictor of perceived stress in trainee clinical psychologists with greater cognitive fusion related to higher levels of perceived stress.
- 3) Meditation will mediate the relationship between self as context, acceptance, contact with the present moment, cognitive fusion and perceived stress.

## **METHOD**

### **Design**

A cross sectional design was used to explore the relationship between acceptance, cognitive fusion, values, committed action, contact with the present moment and self-as-context (predictor variables) and perceived stress (criterion variable).

Age, gender, year of training and meditation practice were identified as potential confounders which were controlled for as these variables have been shown to influence levels of distress (Cushway, 1992; Myers et al.,2012; Baer, Smith, Hopkins, Kreitemeyer & Toney, 2006).

A power calculation (Soper, 2006) was conducted to determine the required sample size for hierarchical regression, with power set at 0.80 and significance set at 0.05 for a medium effect size of 0.15 which was based on a similar study by Pakenham (2015) in which a medium effect size was found. The minimum sample size was calculated to be 101.

### **Participants**

Trainee Clinical Psychologists were recruited from UK higher education institutions. The inclusion criterion was that participants were registered on a doctoral training programme in clinical psychology. Data was collected from 101 trainees; participants ranged in age from 25-54 years ( $M=30$ ,  $SD=4.94$ ), were mostly female (84.16%) and in the second year of training (43.6%). Of the 101



participants, 24 stated they engaged in meditation practice. The number of weekly meditation session ranged from 0 - 7 (M=0.53, SD=1.24).

Table 1

*Demographic characteristics of the sample: age, gender and year of training*

| Demographic characteristic |         | Number (n=101) | Percentage (n=101) |
|----------------------------|---------|----------------|--------------------|
| Gender                     | Male    | 16             | 15.84              |
|                            | Female  | 85             | 84.16              |
| Year of training           | 1       | 28             | 27.7               |
|                            | 2       | 44             | 43.6               |
|                            | 3       | 29             | 28.7               |
| Age                        | 25 – 34 | 88             | 87.13              |
|                            | 35 – 44 | 10             | 9.9                |
|                            | 45 – 54 | 3              | 2.97               |

## Procedure

Ethical approval was granted by Staffordshire University's Faculty of Health Sciences Ethics and Peer Review Panel.

Participants were recruited between July and August 2016. A list of institutions delivering the doctoral training programme in clinical psychology was obtained from the Clearing House for Postgraduate Courses in Clinical Psychology website (<https://www.leeds.ac.uk/chpccp/courses.html>). An email was sent to each Programme Director explaining the purpose of the study as well as an invitation to participate and, a participant information sheet, which provided further information about the study. Programme Directors were asked to forward the invitation and participant information sheet via email to their trainees, if they were happy to do so (see Appendix 5 to 7).

Trainees were asked to read the email and attached participant information sheet and those wishing to participate accessed the study website using a hyperlink embedded within the email ([www.qualtrics.com](http://www.qualtrics.com)). The first page consisted of the

participant information sheet and consent form. Trainees were asked to read both documents and confirm each statement of consent. A numerical code was generated for each participant to ensure anonymity. Participants were informed that their data would be stored in an encrypted space within Qualtrics and primarily viewed by the researcher to maintain confidentiality. Participants were asked to provide demographic information before being asked to complete the measures relating to ACT processes and perceived stress (see Appendix 8).

## **Measures**

### *The Acceptance and Action Questionnaire (AAQ; Bond & Bunce, 2003)*

The AAQ is a sixteen-item questionnaire that measures willingness to accept undesirable thoughts and feelings and, willingness to take action in the face of undesirable thoughts and feelings (Bond & Bunce, 2003). Items are rated on a seven-point scale, ranging from 1 (never true) to 7 (always true). Higher scores indicate greater acceptance and action. The AAQ has demonstrated good test retest reliability (Cronbach's  $\alpha = 0.79$ ) and adequate criterion related, predictive and convergent validity (Bond & Bunce, 2003).

### *The Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014)*

The CFQ is a seven-item questionnaire that assesses the relationship a person has with their thoughts on a continuum from fused (dominated by, entangled in, believed, taken literally) to defused (distancing, separating from, detaching). Items are rated on a seven-point scale ranging from 1 (never true) to 7 (always true). Higher scores indicate greater fusion with thoughts. The measure has demonstrated good reliability (Cronbach's  $\alpha = 0.90$ ) and predictive validity with measures of psychological distress such as the Symptom Checklist 90 General Severity Index ( $r = 0.62$ ) (Gillanders et al., 2014).

### *Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Kreitemeyer & Toney, 2006)*

The FFMQ is a 39-item questionnaire that consists of five subscales; each subscale measures a different facet of mindfulness. The five subscales are: Observing, Describing, Acting with awareness, Nonjudging of inner experience and Nonreactivity to inner experience. Items are rated on a 5-point scale ranging from 1 (never or rarely true) to 5 (always or very often true). Each subscale yields a total score. Two subscales were used to measure ACT concepts. Contact with

the present moment was assessed with the 'acting with awareness' subscale which measures the extent to which individuals are able to be fully present and actively engaged in their activities. 'Self-as-context' was measured using the 'observing' scale which assesses the ability to observe internal (thoughts, emotions, sensations) and external phenomena (sounds, smells) in their day to day life. The subscales have demonstrated good internal consistency (Cronbach's  $\alpha = 0.87; 0.83$ ) and good incremental validity (Baer et al., 2008).

#### *Valued Living Questionnaire (VLQ; Wilson, Sandoz, Kitchens & Roberts, 2010)*

Values was measured with the VLQ, a 20-item questionnaire with two subscales. The first subscale assesses the importance of ten domains representing values (e.g. family, work, recreation). Each domain is rated on a ten-point scale from 1 (not at all important) to 10 (extremely important). The other subscale measures how consistently one has lived in accordance with their values across during the past week, and is rated on a ten-point scale from 1 (not at all consistent with my value) to 10 (completely consistent with my value). A valued living score is calculated by multiplying the importance and consistency ratings for each domain and calculating the mean of each score. Higher scores indicate greater values based living. Evidence suggests that the measures has adequate reliability (Cronbach's  $\alpha = 0.65$  and concurrent validity (Wilson et al., 2010).

#### *Perceived Stress Scale-10 (PSS; Cohen, Kamarck & Mermelstein, 1983)*

Stress was assessed with the PSS-10, a 10 item scale that measures the extent to which ones appraises one's life as stressful, for example, 'in the last month how, often have you felt that you were unable to control important things in life?'. Items are rated on a four-point scale ranging from 0 (never) to 4 (very often). Scores on the PSS range from 0 to 40. Higher scores indicate higher levels of perceived stress: 0 –13 indicates low perceived stress; 14 – 26 indicates moderate perceived stress; and 27 – 40 indicates high perceived stress. The measure has demonstrated good reliability (Cronbach's  $\alpha =0.78$ ) and moderate convergent validity with other measures of stress (Cohen et al., 1983).

### **Pilot study**

The researcher piloted the questionnaires prior to recruitment to obtain an estimate of completion time and identify any technical faults. An email containing

the hyperlink to the study was circulated to four postgraduate students and the research supervisor. Each participant was asked to provide feedback by email. Completion time varied between 8-15 minutes. Participants reported a few faults concerning question numbers and page titles, and these were corrected before the study was made available to trainees.

## **Analysis**

The data were initially screened and subsequently analysed using the IBM Statistical Package for the Social Science, version 24 (IBM Corporation, 2014). Missing data analysis showed five cases with no data, and were removed from the data set. Six cases were partially completed data sets (1.4-98.6%). The researcher followed guidance by Hair, Black, Babin and Anderson, (2009) and the five participants with 50% missing data were removed while the participant with 1.4 % missing data was kept in the dataset. Mean substitution was selected to replace the missing values as this technique is more appropriate when there is a very small number of missing data (Tabachnick & Fidell, 2013; Hair et al., 2009).

The data was checked to determine if statistical assumptions for regression analyses were met (Field, 2009). The Tolerance and VIF statistics indicated no evidence of multicollinearity. Visual inspection of Scatterplots, histograms and Q-Q plots confirmed the data met the assumptions of linearity and homoscedasticity. There was one mild outlier, though Cooks Distance indicated it was not influential. Gender was identified as having a non-normal distribution (84% female vs 15% male). The researcher compared the sample data with population data kept by the Clearing House for Clinical Psychology (2016) for trainees that began training between 2013 and 2015. The mean percentage of males/females was similar to this data (85 females and 16 males) and representative of the population. Assumptions for regression were met.

An initial standard multiple regression was conducted to explore the predictors of perceived stress. A hierarchical multiple regression was then conducted to explore the predictive power of the ACT predictors while controlling for possible demographic predictors.

## RESULTS

### Descriptive statistics

Scores for perceived stress varied with 26 participants reporting low stress, 66 participants reporting moderate stress and 8 participants reporting high stress. Means and standard deviations for the dependent variable (perceived stress) and the predictor variables (acceptance, cognitive fusion, values, committed action, self as context and contact with the present moment) were calculated and are summarised in Table 3.

Table 3

*Means and standard deviations for perceived stress and the six ACT processes.*

| <i>Variable</i>                 | <i>M (SD)</i> | <i>Range</i>  |
|---------------------------------|---------------|---------------|
| Perceived stress                | 17.44 (6.03)  | 4 - 32        |
| Acceptance                      | 33.29 (6.03)  | 18 - 48       |
| Cognitive fusion                | 24.29 (7.25)  | 9 - 49        |
| Valued living                   | 50.26 (12.66) | 25.60 - 81.50 |
| Committed action                | 44.17 (4.69)  | 31 - 58       |
| Self as context                 | 25.32 (5.49)  | 10 - 27       |
| Contact with the present moment | 22.81 (3.60)  | 15 - 32       |

### Correlations

Correlations between the ACT processes, demographic characteristics and perceived stress are summarised in Table 4. Perceived stress was strongly positively correlated with cognitive fusion ( $r = .55, p < .001$ ), those reporting high levels of cognitive fusion experienced higher levels of stress. Perceived stress was strongly negatively correlated with committed action ( $r = -.59, p < .001$ ), participants reporting higher levels of committed action experienced lower levels of stress. Acceptance ( $r = -.31, p < .001$ ), valued living ( $r = -.38, p < .001$ ) and contact with the present moment ( $r = -.46, p < .001$ ) were moderately negatively correlated with perceived stress. Those reporting greater engagement in acceptance, values and contact with the present moment experienced lower levels

of stress. Self as context ( $r = -.03$ ,  $p = .39$ ) was weakly correlated with perceived stress, thus those reporting higher self as context experienced lower levels of perceived stress. Age ( $r = -.04$ ,  $p = .34$ ) was weakly negatively correlated with perceived stress, hence, older trainees reported lower levels of perceived stress. Meditation ( $r = .21$ ,  $p = .017$ ) was weakly positively correlated with perceived stress, individuals reporting greater engagement in meditation practice experienced higher levels of stress.

Table 4

*Descriptive statistics and inter correlations between the ACT processes, age, meditation practice and perceived stress*

| Variable                           | 1       | 2      | 3       | 4     | 5     | 6      | 7     | 8   | 9 |
|------------------------------------|---------|--------|---------|-------|-------|--------|-------|-----|---|
| 1. Perceived stress                | 1       |        |         |       |       |        |       |     |   |
| 2. Acceptance                      | -.31*** | 1      |         |       |       |        |       |     |   |
| 3. Cognitive fusion                | .55***  | .53*** | 1       |       |       |        |       |     |   |
| 4. Valued living                   | -.38*** | .21*   | -.23**  | 1     |       |        |       |     |   |
| 5. Committed action                | -.59*** | .42*** | -.60*** | .24** | 1     |        |       |     |   |
| 6. Self as context                 | -.03    | .20*   | -.08    | .08   | .08   | 1      |       |     |   |
| 7. Contact with the present moment | -.46*** | .39*** | -.38*** | .27** | .32** | .37*** | 1     |     |   |
| 8. Age                             | -.04    | -.04   | .02     | .12   | -.10  | .01    | .01   | 1   |   |
| 9. Meditation                      | .21**   | -.20*  | .19*    | -.101 | -.13  | -.28** | -.23* | .00 | 1 |

\*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$

## Regression analysis

An initial multiple regression was conducted with acceptance, cognitive fusion, contact with the present moment, self as context, valued living, committed action, age and meditation to identify significant predictors of perceived stress. Gender and year of training were also included in the regression analysis as indicated by the previous literature (Table 5).

*Table 5*

*Summary of initial standard multiple regression analysis: Unstandardised and standardised coefficients of the six ACT processes, meditation and demographic variables as predictors of perceived stress.*

| <b>Variable</b>                 | <b>B</b> | <b>SE</b> | <b><math>\beta</math></b> | <b>p</b> | <b>95% CI</b> |              |
|---------------------------------|----------|-----------|---------------------------|----------|---------------|--------------|
|                                 |          |           |                           |          | <b>Lower</b>  | <b>Upper</b> |
| Constant                        | 38.85    | 8.18      |                           |          | 22.59         | 55.09        |
| Acceptance                      | .08      | .09       | .08                       | .34      | -.90          | 1.27         |
| Cognitive fusion                | .18      | .08       | .21                       | .03      | .02           | .34          |
| Valued living                   | -.08     | .04       | -.16                      | .03      | -.15          | -.01         |
| Committed action                | -.51     | .12       | -.39                      | .00      | -.74          | -.28         |
| Self as Context                 | .14      | .09       | .13                       | .10      | -.03          | .31          |
| Contact with the present moment | -.49     | .14       | -.29                      | .00      | -.78          | -.22         |
| Age                             | -.06     | .09       | -.05                      | .49      | -.24          | .12          |
| Gender                          | 3.42     | 1.20      | .21                       | .00      | 1.03          | 5.80         |
| Year of training                | .10      | 0.58      | .01                       | .86      | -1.07         | 1.27         |
| Meditation                      | .63      | 1.08      | .05                       | .56      | -1.51         | 2.77         |

*Note.*  $R^2 = 0.564$ , Adjusted  $R^2 = 0.515$

The overall model was significant  $F(10,101) = 11.632$ ,  $p < .001$  and explained 56.4% of the variance, 51.5% when adjusted. Committed action emerged as the most significant predictor followed by contact with the present moment, cognitive fusion, gender and values. Year of training, age, meditation, acceptance and self as context were not significant predictors.



Hierarchical multiple regression was used to examine the predictive power of committed action, valued living, cognitive fusion and contact with the present moment in predicting perceived stress after controlling for gender. All non-significant predictors of perceived stress were removed in order to maximise precision of the model. Committed action, valued living, cognitive fusion and contact with the present moment were entered in the first model and, gender was added to the model in the second step.

Table 6

*Summary of hierarchical multiple regression analysis: Unstandardised and standardised coefficients of gender, committed action, values, cognitive fusion and contact with the present moment as predictors of perceived stress.*

| Model                           | B     | SE   | $\beta$ | p   | 95% CI |       |
|---------------------------------|-------|------|---------|-----|--------|-------|
|                                 |       |      |         |     | Lower  | Upper |
| Model 1 Constant                | 45.64 | 7.07 |         | .00 | 31.62  | 59.66 |
| Cognitive fusion                | .18   | .08  | .21     | .02 | .02    | .33   |
| Valued living                   | -.09  | .04  | -.19    | .01 | -.16   | -.02  |
| Committed action                | -.44  | .12  | -.35    | .00 | -.68   | -.21  |
| Contact with the present moment | -.37  | .14  | -.22    | .00 | -.64   | -.10  |
| Model 2 Constant                | 41.52 | 6.87 |         | .00 | 27.89  | 55.16 |
| Cognitive fusion                | .16   | .07  | .20     | .03 | .01    | .31   |
| Valued living                   | -.82  | .04  | -.17    | .02 | -.15   | -.01  |
| Committed action                | -.49  | .11  | -.38    | .00 | -.72   | -.27  |
| Contact with the present moment | -.40  | .13  | -.24    | .00 | -.15   | -.01  |
| Gender                          | .72   | 1.16 | -.226   | .00 | 1.42   | 6.02  |

Note. Model 1:  $R^2=.49$ , Adjusted  $R^2 = .47$ , Model 2:  $R^2 =.54$ , Adjusted  $R^2 =.52$

The final model (2) was significant  $F(5,101) = 22.46, p < .00$ , with all variables accounting for 54 % of the variance in perceived stress 52% when adjusted. Committed action ( $\beta = -.38, p > .00$ ) emerged as the strongest predictor followed by contact with the present moment ( $\beta = -.24, p < .00$ ), cognitive fusion ( $\beta = .20, p = .03$ ) and valued living valued living ( $\beta = -.17, p = .02$ ). Gender contributed an additional 5% which was also the case when adjusted. As meditation was not a significant predictor of perceived stress, mediation analysis was not warranted.

## DISCUSSION

This study examines the relationship between the ACT processes and perceived stress in trainee clinical psychologists. The findings provide partial support for the hypothesis that greater engagement in the ACT processes is related to lower levels of perceived stress in trainees.

Committed action was the most significant predictor of stress, greater committed action was related to lower levels of perceived stress. This is consistent with the hypothesis and previous research showing that greater committed action is relation to lower levels of psychological distress (Gagnon et al., 2016). Committed action may mean purposively choosing to engage with rather than avoid the more challenging aspects of clinical and/or academic work because it is in the service of one's personal values (e.g. education). Changing behaviour to effectively manage challenging situations is an integral part of this process. ACT encourages the use of behavioural strategies, such as, goal setting, problem solving, skills training (e.g. mindfulness) and time management to encourage more adaptive forms of coping (Hayes et al., 2012). Teaching and supporting trainees to use these strategies may help them to cope more effectively with the challenges of training and thus reduce stress levels.

Valued living was significantly related to lower levels of perceived stress in trainees; this finding is in accord with the hypothesis and previous research which indicates that valued living is related to lower levels of work related stress in trainee clinical psychologists (Pakenham, 2015). Values provide people with a strong sense of meaning and purpose which has been linked to greater satisfaction with life (Romero-Moreno, Gallego-Alberto, Marquez-Gonzalez & Losada. 2016), thus it is plausible that valued action can indicate those factors

which positively reinforce behaviour (Wilson & Du Frene, 2009). It is possible that supporting trainees to clarify and understand the personal values that underpin their decision to pursue clinical psychology training, might motivate them to engage with the more challenging aspects of training programmes, because of the internal rewards associated with this engagement.

Greater contact with the present moment was significantly related to lower levels of perceived stress in trainees. Previous research has found that preoccupation with the past and future is related to higher levels of perceived stress as well as increased cortisol and blood pressure (Gianferante, Thoma, Hanlin, Chen, Breines, Zoccola, & Rohleder, 2014; Johnson, Lavoie, Bacon, Carlson & Campbell, 2012). From an ACT position, by allowing ones attention to be dominated by past failures and worries about the future, individuals might miss out on opportunities to act in accordance with their values, which might lead to rigid and unhelpful patterns of behaviour that increase distress (Harris, 2009). Trainees may benefit from learning how develop greater present moment awareness rather than ruminating on the past and/or future. This might assist them to reflect on how they cope with stress and to change or persist in this behaviour in service of their personal values (Hayes & Smith, 2005).

Contrary to the hypothesis and theoretical position that cognitive fusion would be the most significant predictor of perceived stress, this was not the case in the present study, though cognitive fusion was a significant predictor of perceived stress in trainees. Greater cognitive fusion was related to high levels of perceived stress. Hayes et al. (2012) suggest that of all the ACT processes, cognitive fusion plays an important role in the development and maintenance of psychological difficulties. Fusing with one's thoughts affects each of the ACT processes and ultimately results in people becoming overly-focussed on avoiding internal and external stimuli that could potentially evoke distress. This is in opposition to engaging in behaviour that moves people towards their personal values (Harris, 2009). Unhelpful thoughts around 'not being enough' are a significant source of stress amongst trainees (Cushway, 1992). Fusing with these thoughts could generate psychological distress which is managed by avoiding activities they associate with these thoughts, for example completing written assignments because of negative thoughts about their academic ability. A consequence of this

is that trainees might worry about what has not been done, continue to put things off and leave little time to complete such tasks which leads to further distress.

The findings did not support the hypothesis that greater acceptance is significantly related to lower perceived stress in trainees. This result contrasts with previous research which found greater acceptance was significantly related to lower work related stress and psychological distress in Australian trainees, call centre workers, administrative staff and manual workers (Pakenham, 2015; Donaldson & Bond 2004; Bond & Bunce, 2003). The discrepancy in findings with the present study could be related to the differences in measures of acceptance that were used in the studies. The present study operationalised acceptance as willingness to experience potentially distressing thoughts or emotions without attempting to change their frequency and form (Hayes et al., 2006; Hayes et al., 2012) and thus, used the acceptance/willingness subscale from the AAQ (Bond & Bunce, 2003). Previous studies have used an earlier conceptualisation of acceptance that refers to willingness to experience internal events (willingness/acceptance) and ability to take action even in face of uncomfortable internal events (committed action; Hayes, Stroschal & Wilson, 1999) and thus used the AAQ total score which combines scores from the acceptance and committed action subscales.

The nature of the relationship between self as context and perceived stress was also dissimilar to the hypothesised outcome. The ability to adopt an observer perspective from which one is able to notice thoughts, emotions and physical sensations without becoming attached to them did not predict nor correlate with perceived stress. It could be that this finding is related to the questionnaire that was used to measure self as context. The present study used the observing scale from the FFMQ (Baer et al., 2006) which only includes one item that specifically relates to the ability to observe internal events ' I pay attention to how my emotions affect my thoughts and behaviour'. Questionnaires such as the Reno Inventory of Self Perspective (RISP; Jeffcoat, 2015), have been specifically developed as a measure of self as context from a sample of university students and, preliminary results indicate it is strongly correlated with stress and psychological flexibility. The RISP may be a more accurate measure of self as context, further research is needed to examine it's applicability to trainee clinical psychologists.

Gender was the only demographic characteristic to significantly predict stress. Female trainees reported higher levels of perceived stress than males which is

consistent with previous research undertaken with the general population, student psychiatric nurses and trainee clinical psychologists (Office for National Statistics, 2016; Tully, 2004; Cushway & Tyler, 1996). Some studies have showed that women experience a greater number of chronic stressors and daily hassles (Mc Donagh & Walters, 2001; Matud, 2004; Denton, Prus & Walter, 2004). One study identified that women report greater stress due to conflict with colleagues (Narayanan, Menon & Spector, 1999). Other studies have found that women are more affected by the stress of those around them due to greater emotional involvement in social and family relationships (Kessler & McLeod, 1984; Turner et al., 1995). It might be that female trainees report greater levels of perceived stress because they experience a greater number of overall stressors in day to day life.

### *Limitations*

Participants were recruited through individual clinical psychology training programmes via course directors. Four of the thirty course directors stated they were unable to forward the study invitation to trainees. This limits the extent to which the findings can be generalised beyond this sub population of trainees. Broadening recruitment via social media platforms such as Facebook or Twitter and, advertising on online forums such as clinpsy ([www.clinpsy.org.uk](http://www.clinpsy.org.uk)) could have created additional opportunities for trainee to consider and participate in this study.

A key advantage of using an online survey is that data collection and interpretation is less time consuming than face-to-face methods. However, the absence of the researcher meant participants were unable to ask questions if they required and, the researcher was unable to check all measures had been fully completed before responses were submitted. There were five cases where no data was present, and six cases with partially completed data. This meant the study had to be reopened to collect further data to ensure the study was adequately powered.

All training programmes incorporate teaching on third wave approaches which might include sessions on ACT (Division of Clinical Psychology, 2016) and some participants may have been familiar with the aims of the model; hence, trainees could have provided responses that support the study hypotheses, which biases the results. One way to overcome this might have been to collect data on trainees' knowledge of ACT using the ACT Knowledge Questionnaire (Luoma & Vilardarga, 2013) and, to control for its influence in the analysis.

Apart from self-as-context all of the measures were designed to reflect the ACT processes. Recently developed measures such as the RISP (Jeffcoat, 2015) may have provided a more accurate reflection of one's ability to engage in the process of self as context and thus strengthen the validity of the results.

Finally, levels of stress and engagement in the ACT processes are likely to vary throughout the training year; there are fluctuations in academic and research activities. The results of the present study may be an artefact of the time of year rather than a reflection of typical stress levels and engagement in the ACT processes.

### *Implications for Education and Training*

The findings of the present study indicate that the ACT model could provide useful framework for designing interventions to reduce stress in trainees. Course Directors may wish to consider the findings when considering interventions to support trainees with managing the multiple stressors encountered during training. One suggestion might be to consider facilitating an ACT stress management group. The ACT at work programme was developed by Bond and Hayes (2002) to enhance wellbeing in the workplace. It is a skills based group intervention that teaches acceptance and mindfulness skills as an alternative to avoidance. Participants are also supported to reflect on personal/professional values and develop plans for engaging in values based action. Preliminary evidence indicates that adapted versions of this intervention are effective at reducing stress with Australian trainees (Stafford Brown & Pakenham, 2012), student nurses (Frögéli, Djordjevic, Rudman, Livheim & Gustavsson, 2016) and social workers (Brinkborg, Michanek, Hesser & Berglund, 2011). The findings of the present study highlight values, committed action, contact with the present moment and cognitive fusion as significant predictors of stress within this population of trainees. Courses wishing to develop and implement ACT interventions may wish to consider placing greater emphasis on: clarifying values, identifying and overcoming barriers to committed action, defusing thoughts and beliefs and learning how to actively contact the present moment, as these could potentially appear to be the key ingredients of the intervention with this population.

## **CONCLUSIONS AND FUTURE DIRECTIONS**

The findings of this study provide partial support for the utility for ACT as a model for understanding and reducing stress in trainees. However, more research is needed to replicate these results using accurate measures of self as context such as the RISP (Jeffcoat, 2015) and, in other countries that perhaps differ in the structure and content of clinical psychology training programmes. Despite this, the findings of present study, together with the growing evidence base for ACT stress management interventions, provide a firm foundation for piloting this model with UK trainees. The ACT community along with course providers might also benefit from research comparing ACT with other approaches to further establish the evidence about what seems to be the most helpful in reducing stress and how this impacts on clinical work and academic performance.

## REFERENCES

Australian Psychological Society. (2013). *College course approval guidelines for postgraduate professional courses*. Retrieved from:

<https://www.psychology.org.au/Assets/Files/College-Course-Approval-Guidelines-Feb2013.pdf>

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13(1), 27-45. doi:10.1177/1073191105283504

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., ... & Williams, J.M.G. (2008). Construct validity of the five-facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment*, 15(3), 329-342. doi: 10.1177/1073191107313003

Bardeen, J. R., & Fergus, T. A. (2016). The interactive effect of cognitive fusion and experiential avoidance on anxiety, depression, stress and posttraumatic stress symptoms. *Journal of Contextual Behavioral Science*, 5(1), 1–6. doi: 10.1016/j.jcbs.2016.02.002

Bond, F. W. & Bunce, D. (2003). The role of acceptance and job control in mental health, job satisfaction, and work performance. *Journal of Applied Psychology*, 88(6) 1057-1067. doi: 10.1037/0021-9010.88.6.1057

Bond, F.W., Flaxman, P.E., & Lloyd, J. (2016). Mindfulness and meditation in the workplace: An acceptance and commitment therapy approach. *The Psychology of Meditation, Research and Practice* (pp. 241-258). Oxford: Oxford University Press.

Boorman S. (2009). *NHS health and wellbeing review: interim report*. Retrieved from

[http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_1087](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_1087)

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Bowers, L., Allan, T., Simpson, A., Jones, J., & Whittington, R. (2009). Morale is high in acute inpatient psychiatry. *Social Psychiatry and Psychiatric Epidemiology*, 44(1), 39–46. doi: 10.1007/s00127-008-0396-z

Brinkborg, H., Michanek, J., Hesser, H., & Berglund, G. (2011). Acceptance and commitment therapy for the treatment of stress among social workers: A randomized controlled trial. *Behaviour Research and Therapy*, 49(6), 389-398. doi: 10.1016/j.brat.2011.03.009

British Psychological Society (2016). *Standards for the accreditation of Doctoral programmes in clinical psychology*. Retrieved from [http://www.bps.org.uk/system/files/Public%20files/PaCT/Clinical%20Accreditation%202016\\_WEB.pdf](http://www.bps.org.uk/system/files/Public%20files/PaCT/Clinical%20Accreditation%202016_WEB.pdf)

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 386-396.

Cox, T (1978). *Stress*. London: Macmillan.

Cowman, S.E., & Ferrari, J.R. (2002). “Am I for real?” Predicting imposter tendencies from self-handicapping and affective components. *Social behaviour and personality*, 30(2), 119-126. Retrieved from <https://www.sbp-journal.com/index.php/sbp/article/view/1160>

Cushway, D. (1992). Stress in clinical psychology trainees. *British Journal of Clinical Psychology*, 31(2), 169-179. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/1600401>

Cushway, D., & Tyler, P.A. (1996). Stress and Coping in Clinical Psychologists. *Stress Medicine*, 10(1), 35-42. doi: 10.1002/smi.2460100107/

Denton, M., Prus, S., & Walters, V. (2004). Gender differences in health: a Canadian study of the psychosocial, structural and behavioural determinants of health. *Social science & medicine*, 58(12), 2585-2600. doi.org/10.1016/j.socscimed.2003.09.008

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind in everyday life*. New York: Delacorte.

Division of Clinical Psychology. (2016). *The Alternative Handbook for Postgraduate Training Courses in Clinical Psychology: 2016 Entry*. Retrieved from: [https://www.bps.org.uk/system/files/user-files/Division%20of%20Clinical%20Psychology/public/alternative\\_handbook\\_2016.pdf](https://www.bps.org.uk/system/files/user-files/Division%20of%20Clinical%20Psychology/public/alternative_handbook_2016.pdf)

Donaldson, E., & Bond, F. W. (2004). Psychological acceptance and emotional intelligence in relation to workplace well-being. *British Journal of Guidance and Counselling*, 34, 187-203. Retrieved from [https://contextualscience.org/Donaldson\\_Bond\\_2004](https://contextualscience.org/Donaldson_Bond_2004)

El-Ghoroury, N.H., Galper, D.I., Sawaqdeh, A., & Bufka, L.F. (2012). Stress, coping, and barriers to wellness among psychology graduate students. *Training and Education in Professional Psychology*, 6(2), 22-134. doi: 10.1037/a0028768

Enochs, W.K., & Etzbach, C.A. (2004). Impaired student counsellors: Ethical and legal considerations for the family. *Family Journal*, 12(4), 396-400.

Field, A. P. (2009). *Discovering statistics using SPSS* (3<sup>rd</sup> ed.). London: Sage Publishing.

Frögéli, E., Djordjevic, A., Rudman, A., Livheim, F., & Gustavsson, P. (2016). A randomized controlled pilot trial of Acceptance and Commitment Training (ACT) for preventing stress-related ill health among future nurses. *Anxiety, Stress, & Coping*, 29(2), 202-218. doi: 10.1080/10615806.2015.1025765

Gagnon, J., Dionne, F., & Pychyl, T.A. (2016). Committed action: An initial study on its association to procrastination in academic settings. *Journal of Contextual Behavioral Science*, 5(2), 97-102. doi: 10.1016/j.jcbs.2016.04.002

Galvin, J., & Smith, A.P. (2015). Stress in U.K. mental health training: A multi-dimensional comparison study. *British Journal of Education, Society & Behavioural Science*, 9(3), 161-175. Retrieved from [https://orca.cf.ac.uk/73620/8/Galvin%20and%20Smith%202015%20\(1\)%20\(1\).pdf](https://orca.cf.ac.uk/73620/8/Galvin%20and%20Smith%202015%20(1)%20(1).pdf)

Gianferante, D., Thoma, M.V., Hanlin, L., Xuejie, C., Breines, J., Zoccola, P.M., & Rohleder, N. (2014). Post-stress rumination predicts HPA axis responses to repeated acute stress. *Psychoneuroendocrinology*, 49, 244–252. doi: 10.1016/j.psyneuen.2014.07.021

Gillanders, D. T., Bolderston, H., Bond, F. W., Dempster, M., Flaxman, P. E., Campbell, L., ... & Masley, S. (2014). The development and initial validation of the cognitive fusion questionnaire. *Behavior Therapy*, 45(1), 83-101. doi: 10.1016/j.beth.2013.09.001

Gore, N.J., & Smith, M.P., (2012). Outcomes of a 'Train the Trainers' approach to an acceptance based stress intervention in a specialist challenging behaviour service. *International Journal of Positive Behavioural Support*, 2(1), 39-48. Retrieved from [https://www.researchgate.net/publication/263137747\\_Outcomes\\_of\\_a\\_'Train\\_the\\_Trainers'\\_approach\\_to\\_an\\_acceptance\\_based\\_stress\\_intervention\\_in\\_a\\_specialist\\_challenging\\_behaviour\\_service](https://www.researchgate.net/publication/263137747_Outcomes_of_a_'Train_the_Trainers'_approach_to_an_acceptance_based_stress_intervention_in_a_specialist_challenging_behaviour_service)

Hair, J., Black, W.C., Babin, B.J., & Anderson, R.E. (2009). *Multivariate Data Analysis*. Essex: Pearson Education Limited.

Harris, R. (2009). *ACT Made Simple: An Easy-To-Read Primer on Acceptance and Commitment Therapy*, Oakland, CA: New Harbinger Publications Inc.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1-25. doi: 10.1016/j.brat.2005.06.006

Hayes, S.C., & Smith, S. (2005). *Get Out Of Your Mind And Into Your Life: The New Acceptance and Commitment Therapy*. California : New Harbinger Publications Inc.

Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change*. New York: Guilford Press

Hayes, S.C., Strosahl, K.D, & Wilson, K.G. (2016). *Acceptance and Commitment Therapy: The Process and Practice of Mindful Change*. New York, NY: The Guildford Press.

IBM Corp. Released 2014. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.

Jeffcoat, T. (2015). *Development of the Reno Inventory of Self Perspective (RISP): Measuring self in the ACT model*. (Unpublished doctoral dissertation). University of Nevada, Nevada.

Johnson, J.A., Lavoie, K.L., Bacon, S.L., Carlson, L.E., & Campbell, T.S. (2012). The effect of trait rumination on adaptation to repeated stress. *Psychosomatic Medicine*, 74(4), 258-262. doi: 10.1097/PSY.0b013e31824c3ef2

Kessler, R. C., & McLeod, J. D. (1984). Sex differences in vulnerability to undesirable life events. *American sociological review*, 620-631. Retrieved from [http://www.jstor.org/stable/2095420?seq=1#page\\_scan\\_tab\\_contents](http://www.jstor.org/stable/2095420?seq=1#page_scan_tab_contents)

Kuyken, W., Peters, E., Power, M., & Lavender, T., & Rabe-Hesketh, S. (2000). A longitudinal study of the psychological adaptation of trainee clinical psychologists. *Clinical Psychology and Psychotherapy*, 7(5), 394–400. doi: 10.1002/1099-0879(200011)7:5<394::AID-CPP268>3.0.CO;2-O

Kuyken, W., Peters, E., Power, M. J., & Lavender, T. (2003). Trainee clinical psychologists' adaptation and professional functioning: A longitudinal study. *Clinical Psychology and Psychotherapy*, 10(1), 41 - 54. 10.1002/cpp.350

- Lazarus, R. S., & Folkman, S. (1984). *Stress, Coping and Adaptation*. New York, NY: Springer.
- Lazarus, R. S., & Launier, R. (1978). Stress-related transactions between person and environment. In L. A. Pervin & M. Lewis (Eds.), *Perspectives in Interactional Psychology* (pp. 87–327), New York: Plenum Press.
- Luoma, J. B., & Vilardaga, J. P. (2013). Improving therapist psychological flexibility while training acceptance and commitment therapy: a pilot study. *Cognitive behaviour therapy*, 42(1), 1-8. doi: 10.1080/16506073.2012.701662.
- McConachie, D.A., McKenzie, K., Morris, P.G., & Walley, R.M., (2014). Acceptance and mindfulness-based stress management for support staff caring for individuals with intellectual disabilities. *Research in Developmental Disabilities*, 35(6), 1216-1227. doi: 10.1016/j.ridd.2014.03.005
- McDonough, P., & Walters, V. (2001). Gender and health: reassessing patterns and explanations. *Social science & medicine*, 52(4), 547-559. doi: 10.1002/(SICI)1099-1379(199901)20:13.0.CO;2-J
- Myers, S. B., Sweeney, A. C., Popick, V., Wesley, K., Bordfeld, A., & Fingerhut, R. (2012). Self-care practices and perceived stress levels among psychology graduate students. *Training and Education in Professional Psychology*, 6(1), 55-66. Retrieved from <http://psycnet.apa.org/index.cfm?fa=buy.optionToBuy&id=2012-03627-007>
- Narayanan, L., Menon, S., & Spector, P. E. (1999). Stress in the workplace: A comparison of gender and occupations. *Journal of Organizational Behavior*, 63-73. doi: 10.1002/(SICI)1099-1379(199901)20:1<63::AID-JOB873>3.0.CO;2-
- Nelson, N.G., Dell'Oliver, C., Koch, C., & Buckler. (2001). Stress, coping and success among graduate students in clinical psychology. *Psychological Reports*, 88(1), 759-767. doi: 10.2466/pr0.2001.88.3.759

Nichols, A.L., & Maner, J.K. (2008). The good-subject effect: investigating participant demand characteristics. *The Journal of General Psychology*, 135(2), 151-65. doi: 10.3200/GENP.135.2.151-166.

Nixon, A.E., Mazzola, J.J., Bauer, J., Krueger, J.R., & Spector, P.E. (2011). Can work make you sick? A meta-analysis of the relationships between job stressors and physical symptoms. *Work & Stress*, 25(1), 1-22. doi: 10.1080/02678373.2011.569175

Office for National Statistics (2016). *Labour force survey: Self-reported work-related ill health and workplace injuries*. Retrieved from: <http://www.hse.gov.uk/statistics/lfs/>

Pakenham, K. I. (2015). Effects of acceptance and commitment therapy (ACT) training on clinical psychology trainee stress, therapist skills and attributes, and ACT processes. *Clinical Psychology & Psychotherapy*, 22(6), 647-655.

Penley, J.A., Tomaka J., & Wiebe, J.S., (2002). The association of coping to physical and psychological health outcomes: a meta-analytic review. *Journal of Behavioural Medicine*, 25(6), 551-603. doi:10.1023/A:1020641400589

Romero-Moreno, R., Gallego-Alberto, I., Márquez-González, M., & Losada, A. (2016). Psychometric properties of the valued living questionnaire adapted to dementia caregiving. *Aging and Mental Health*. 1-8. doi: doi.org/10.1080/13607863.2016.1191055

Sänger, J., Bechtold, L., Schoofs, D., Blaszkewicz, M., & Wascher, E. (2014). The influence of acute stress on attention mechanisms and its electrophysiological correlates. *Frontiers in behavioural neurosciences*, 9(8), 353. doi: 10.3389/fnbeh.2014.00353

Segal, Z. V., & Williams, J. M. (81). G, & Teasdale, JD (2002). Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse.

Schoofs, D., Preuss, D., & Wolf, O.T. (2008). Psychosocial stress induces working memory impairments in an n-back paradigm. *Psychoneuroendocrinology*, 33(5), 643-53. doi: 10.1016/j.psyneuen.2008.02.004.

Soper, D. (2017). *A-priori Sample Size Calculator for Hierarchical Multiple Regression*. Retrieved from <http://www.danielsoper.com/statcalc/calculator.aspx?id=16>

Stafford-Brown., & Pakenham, K. (2012). The effectiveness of an ACT informed intervention for managing stress and improving therapist qualities in clinical psychology trainees. *Journal of Clinical Psychology*, 68(6), 592-613. doi: 10.1002/jclp.21844

Strosahl, K. D., Hayes, S. C., Wilson, K. G., & Gifford, E. V. (2004). The ACT primer: Core therapy processes, intervention strategies, and therapist competencies. In S. C. Hayes & K. D. Strosahl (Eds.), *A practical guide to acceptance and commitment therapy* (pp.31-58). New York, NY: Springer.

Tabachnick, B.G., & Fidell, L.S. (2013). *Using Multivariate Statistics* (6th ed.). Essex: Pearson Education Limited.

Totman, J., Hundt, G. L., Wearn, E., Paul, M., & Johnson, S. (2011). Factors affecting staff morale on inpatient mental health wards in England: a qualitative investigation. *Biomed Central Psychiatry*, 11, 68–78. doi: 10.1186/1471-244X-11-68

Turner, R. J., & Avison, W. R. (2003). Status variations in stress exposure among young adults: Implications for the interpretation of prior research. *Journal of Health and Social Behavior*, 44, 488–505. doi: 10.1177/1363459305050586

West, M., Dawson, J., Admasachew, L., & Topakas, A. (2011). NHS Staff Management and Health Service Quality: Results from the NHS Staff Survey and Related Data. Retrieved from [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/215455/dh\\_129656.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/215455/dh_129656.pdf).

Wiegner, L., Hange, D., Björkelund, C., & Ahlborg, G. (2015). Prevalence of perceived stress and associations to symptoms of exhaustion, depression and anxiety in a working age population seeking primary care - an observational study. *Biomed Central Family Practice*, 16, 38. doi: 10.1186/s12875-015-0252-7

Wilson, K.G., & Du Frene, T. (2009). *Mindfulness for two: An acceptance and commitment therapy approach to mindfulness in psychotherapy*. Oakland, CA: New Harbinger.

Wilson, K. G., Sandoz, E. K., Kitchens, J., & Roberts, M. (2010). The Valued Living Questionnaire: Defining and measuring valued action within a behavioural framework. *The Psychological Record*, 60(2), 249-272. Retrieved from [https://contextualscience.org/wilson\\_etal\\_vlq](https://contextualscience.org/wilson_etal_vlq)



## APPENDICES

### Appendix 3: Letter of Ethical Approval



Faculty of Health Sciences

#### ETHICAL APPROVAL FEEDBACK

|                            |   |
|----------------------------|---|
| <b>Researcher name:</b>    | Loretta Davis   |
| <b>Title of Study:</b>     | Psychological Predictors of Stress: Is the Acceptance and Commitment (ACT) framework a useful model for understanding stress in clinical psychology trainees? |
| <b>Status of approval:</b> | Approved  |

Thank you for addressing the committee's comments. Your research proposal has now been approved by the Faculty's Ethics Panel and you may commence the implementation phase of your study. You should note that any divergence from the approved procedures and research method will invalidate any insurance and liability cover from the University. You should, therefore, notify the Panel of any significant divergence from this approved proposal.

You should arrange to meet with your supervisor for support during the process of completing your study and writing your dissertation.

When your study is complete, please send the ethics committee an end of study report. A template can be found on the ethics BlackBoard site.

A handwritten signature in black ink that reads 'PM Kevern'.

**Signed:** Dr Peter Kevern  
Chair of the Faculty of Health Sciences Ethics Panel

**Date:** 15.6.16

#### **Appendix 4: Course Directors invitation to participate**

Re: Psychological Predictors of stress: Is the Acceptance and Commitment (ACT) framework a useful model of for understanding work related stress in clinical psychology trainees?

Dear (insert name of Course Director)

I am second year clinical psychology trainee undertaking my doctoral research at Staffordshire University. I am emailing you to ask if you can forward the following email to all of the trainee clinical psychologists (all cohorts) on your programme. I have attached the participant information sheet should you wish to find out more about my study.

If you wish to discuss this project, please do not hesitate to contact me via email (d0265262e@staffs.ac.uk).

Yours sincerely

Loretta Davis

Trainee Clinical Psychologist  
Staffordshire University, South Staffordshire and Shropshire NHS Foundation  
Trust

## **Appendix 5: Trainee invitation to participate**

Dear Trainee,

Re: Psychological Predictors of stress: Is the Acceptance and Commitment (ACT) framework a useful model of for understanding stress in clinical psychology trainees

I am second year trainee clinical psychologist undertaking my doctoral research at Staffordshire University. I invite you to participate in my study investigating the relationship between the Acceptance and Commitment processes (e.g. acceptance, mindfulness and values) and work related stress in clinical psychology trainees.

You will be invited to complete an online survey that takes approximately 15 minutes. The findings of this research project will hopefully support programme providers to make informed decisions regarding the use of ACT based stress management interventions with clinical psychology trainees. I have attached the participant information sheet should you wish to find out more about my study.

If you have any additional questions about the study, please contact:

Loretta Davis

Email; [d026526e@staffs.ac.uk](mailto:d026526e@staffs.ac.uk)

If you wish to participate, please click the following link:

([link to study](#))

Thank you for your time and consideration

Yours sincerely

Loretta Davis

Trainee Clinical Psychologist

Staffordshire University, South Staffordshire and Shropshire NHS Foundation  
Trust

## **Appendix 6: Participant Information Sheet and Consent form**

Title of the research: Psychological predictors of stress: Is the Acceptance and Commitment (ACT) framework a useful model of for understanding stress in clinical psychology trainees

### **Invitation and brief summary**

I would like to invite you to participate in my study investigating the relationship between the Acceptance and Commitment processes (e.g. acceptance, cognitive defusion, values) and stress in clinical psychology trainees.

### **Purpose of the study**

The purpose of the study is to determine the nature of the relationship between the level of engagement in ACT processes and the level of stress experienced by clinical psychology trainees.

### **What will taking part involve?**

You will be asked to complete a set of questionnaires that will ask you to: (i) think about the level of stress you currently experience, (ii) think about how you respond to distressing thoughts, and emotions and (ii) identify your personal values. This should take approximately 15 minutes to complete.

### **Do I have to take part?**

No, your participation is entirely voluntary and you can withdraw immediately after completing the questionnaires. You will not be able to withdraw your data after this point.

### **What are the possible benefits of taking part?**

While there are no direct benefits to taking part in this study, the findings will be an important addition to the literature on stress in clinical psychology trainees and could lead to future research exploring the benefits of teaching ACT (Acceptance and Commitment Therapy) skills to help trainees manage stress.

### **What are the possible disadvantages of taking part?**

You will be asked to reflect on your current level of stress. There is small risk that this could highlight any difficult feelings you may be struggling with, which could

cause some distress. Please discuss any difficult feelings with someone close to you. You may wish to seek additional support from your course provider e.g. Personal Tutor, university counselling service or G.P.

These organisations will also be able to provide help and support:

- The Samaritans <http://www.samaritans.org/how-we-can-help-you/contact-us>.
- Sane [http://www.sane.org.uk/what\\_we\\_do/support/helpline](http://www.sane.org.uk/what_we_do/support/helpline)

### **Will my taking part be confidential?**

Yes. The researcher will not be collecting any identifiable information such as your name or date of birth. The Qualtrics system automatically generates a numerical code for each participant. Your responses will be held in an encrypted space within the Qualtrics system that is only accessible by the researcher. Following data collection, the researcher will export your responses into a Microsoft Excel spreadsheet and save them on an encrypted memory stick for analysis. The memory stick will be kept in a locked filing cabinet. The data collected will only be looked at by the researcher and her supervisor. Any data will be kept for a period of ten years, in line with the Staffordshire University policy, and destroyed thereafter.

### **What will happen to the results of this research?**

The results of the study will be written up for my thesis for my Doctorate in Clinical Psychology. The results will be disseminated to Course Directors of Clinical Psychology training programmes and submitted to a peer-reviewed journal for publication. You will not be identified in any report or publication.

### **By continuing past this page, you are confirming the following statement of consent:**

I confirm that I have read and understood the information sheet.

I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw my data from the study immediately after completing the questionnaires but not at a later point after this without giving any reason, and without my legal rights being affected.

I understand that the data collected will be looked at by the researcher and research supervisor.

I agree to take part in the study.

## Appendix 7: Measures

### Demographics questions

1. Please state your year of training:
  - Year 1
  - Year 2
  - Year 3
  
2. Please state your age in years
  
  
  
  
  
  
  
  
  
  
3. Please state your gender
  - Male
  - Female
  - Prefer not to say
4. Do you meditate?
  - Yes
  - No
5. How long have you been practicing meditation (number of months)?
  
  
  
  
  
  
  
  
  
  
6. How many times a week do you practice meditation

### Perceived stress Scale (Cohen, Karmarck & Mermelstein, 1983)

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. In the last month, how often have you been upset because of something that happened unexpectedly?                | 0 | 1 | 2 | 3 | 4 |
| 2. In the last month, how often have you felt that you were unable to control the important things in your life?    | 0 | 1 | 2 | 3 | 4 |
| 3. In the last month, how often have you felt nervous and "stressed"?   | 0 | 1 | 2 | 3 | 4 |
| 4. In the last month, how often have you felt confident about your ability to handle your personal problems?        | 0 | 1 | 2 | 3 | 4 |
| 5. In the last month, how often have you felt that things were going your way?                                      | 0 | 1 | 2 | 3 | 4 |
| 6. In the last month, how often have you found that you could not cope with all the things that you had to do?      | 0 | 1 | 2 | 3 | 4 |
| 7. In the last month, how often have you been able control irritations in your life?                                | 0 | 1 | 2 | 3 | 4 |
| 8. In the last month, how often have you felt that you were on top of things?                                       | 0 | 1 | 2 | 3 | 4 |
| 9. In the last month, how often have you been angered because of things that were outside of your control?          | 0 | 1 | 2 | 3 | 4 |
| 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them | 0 | 1 | 2 | 3 | 4 |



## Cognitive Fusion Questionnaire (Gillanders et.al., 2014)

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

|   | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
|---|---------------|------------------------|----------------|-------------------|--------------------|--------------------------|----------------|
|   | never<br>true | very<br>seldom<br>true | seldom<br>true | sometimes<br>true | frequently<br>true | almost<br>always<br>true | always<br>true |
| 1. My thoughts cause me distress or emotional pain  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 2. I get so caught up in my thoughts that I am unable to do the things that I most want to do             | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 3. I over-analyse situations to the point where it's unhelpful to me                                      | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 4. I struggle with my thoughts  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 5. I get upset with myself for having certain thoughts  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 6. I tend to get very entangled in my Thoughts  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 7. It's such a struggle to let go of upsetting thoughts even when I know that letting go would be helpful | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |

### Acceptance and Action Questionnaire (Bond & Bunce, 2003)

Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following scale to make your choice.

|  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
|--|---------------|------------------------|----------------|-------------------|--------------------|--------------------------|----------------|
|  | never<br>true | very<br>seldom<br>true | seldom<br>true | sometimes<br>true | frequently<br>true | almost<br>always<br>true | always<br>true |
| 1.I am able to take action on a problem even if I am uncertain what is the right thing to do.  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 2.When I feel depressed or anxious, I am unable to take care of my responsibilities.           | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 3.I try to suppress thoughts and feelings that I don't like by just not thinking about them.   | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 4.It's OK to feel depressed or anxious.  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 5.I rarely worry about getting my anxieties, worries, and feelings under control.              | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 6.In order for me to do something important, I have to have all my doubts worked out.          | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 7.I'm not afraid of my feelings.   | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 8.I try hard to avoid feeling depressed or anxious.  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 9.Anxiety is bad.  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 10.Despite doubts, I feel as though I can set a course in my life and then stick to it.        | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 11.If I could magically remove all the painful experiences I've had in my life, I would do so. | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 12.I am in control of my life.   | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 13.If I get bored of a task, I can still complete it.  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 14.Worries can get in the way of my success.   | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 15.I should act according to my feelings at the time.  | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |
| 16.If I promised to do something, I'll do it, even if I later don't feel like it.              | 1             | 2                      | 3              | 4                 | 5                  | 6                        | 7              |

**Five Facet Mindfulness Scale (observing and acting with awareness subscales;  
Baer, Smith, Hopkins, Krietemyer & Toney, 2006)**

Please rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you.

| 1                    | 2           | 3              | 4          | 5                         |
|----------------------|-------------|----------------|------------|---------------------------|
| Never or rarely true | Rarely true | Sometimes true | Often true | Very often or always true |

1. When I'm walking, I deliberately notice the sensations of my body moving.
2. When I take a shower or bath, I stay alert to the sensations of water on my body.
3. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
4. I pay attention to sensations, such as the wind in my hair or sun on my face.
5. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
6. I notice the smells and aromas of things.
7. I notice visual elements in art or nature, such as colours, shapes, textures, or patterns of light and shadow.
8. I pay attention to how my emotions affect my thoughts and behaviour.
9. When I do things, my mind wanders off and I'm easily distracted.
10. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
11. I am easily distracted.
12. It seems I am "running on automatic" without much awareness of what I'm doing.
13. I rush through activities without being really attentive to them.
14. I do jobs or tasks automatically without being aware of what I'm doing.
15. I find myself doing things without paying attention.

**Valued Living Questionnaire (Wilson, Sandoz, Kitchens & Roberts, 2010)**

In this section, please give a rating of how **consistent** your actions have been with each of your values. Please note that this is **not** asking about your ideal in each area, **nor** what others think of you. Everyone does better in some areas than in others. People also do better at some times than at others. **Please just indicate how you think you have been doing during the past week.** Rate each area (by circling a number) on a scale of 1-10. A “1” means that your actions have been *completely inconsistent with your value*. A “10” means that your actions have been *completely consistent with your value*.

***During the past week...***

| <u>Area</u>   | not at all<br>important |   |   |   |   | completely<br>important |   |   |   |    |
|---|-------------------------|---|---|---|---|-------------------------|---|---|---|----|
| 1) Family (other than marriage or parenting)                      | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 2) Marriage/couples/ intimate relationships                       | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 3) Parenting  | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 4) Friends/social life  | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 5) Work   | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 6) Education/training   | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 7) Recreation/fun   | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 8) Spirituality/meaning & purpose in life                         | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 9) Citizenship/Community life                                     | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |
| 10) Physical self-care (nutrition, exercise/movement, rest sleep) | 1                       | 2 | 3 | 4 | 5 | 6                       | 7 | 8 | 9 | 10 |

In this section, please give a rating of how **consistent** your actions have been with each of your values. Please note that this is **not** asking about your ideal in each area, **nor** what others think of you. Everyone does better in some areas than in others. People also do better at some times than at others. **Please just indicate how you think you have been doing during the past week.** Rate each area (by circling a number) on a scale of 1-10. A “1” means that your actions have been *completely inconsistent with your value*. A “10” means that your actions have been *completely consistent with your value*.

***During the past week...***

| <u>Area</u>  | <b>not at all</b>        |   |   |   |   | <b>completely consistent</b> |   |   |   |    |               |  |  |  |  |  |  |  |  |  |
|--|--------------------------|---|---|---|---|------------------------------|---|---|---|----|---------------|--|--|--|--|--|--|--|--|--|
|  | consistent with my value |   |   |   |   |                              |   |   |   |    | with my value |  |  |  |  |  |  |  |  |  |
| 1) Family (other than marriage or parenting)                     | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 2) Marriage/couples/ intimate relationships                      | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 3) Parenting   | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 4) Friends/social life   | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 5) Work  | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 6) Education/training  | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 7) Recreation/fun  | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 8) Spirituality/meaning & purpose in life                        | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 9) Citizenship/Community life                                    | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |
| 10) Physical self-care (nutrition, exercise/movement, rest sleep | 1                        | 2 | 3 | 4 | 5 | 6                            | 7 | 8 | 9 | 10 |               |  |  |  |  |  |  |  |  |  |

## **Appendix 8: Author guidelines**

### **Submission**

Submit one copy of the manuscript electronically (.rtf, PDF, or .doc) through the Manuscript Submission Portal.

Manuscript Submission Portal Entrance

Michael C. Roberts

2009 Dole Human Development Center, Clinical Child Psychology Program

1000 Sunnyside Avenue

University of Kansas

Lawrence, KS 66045

Email

Your title page must include the following information: each author's name and affiliation, the address of the corresponding author, email addresses, phone and fax numbers.

Do not identify the authors in the manuscript text or footnotes.

If you would like to discuss a possible idea for submission to the journal, please contact Michael C. Roberts.

### **Call for Manuscripts**

The Editorial Board of Training and Education in Professional Psychology® (TEPP) encourages the APPIC membership, the membership of the academic training councils, and all members of the psychology education community to examine issues relevant to the process and procedures of psychology education and training and contribute manuscripts to this journal.

TEPP is specifically for psychologists and other mental health professionals who educate, supervise, and train mental health practitioners during their academic programs as well as during their participation at practicum, internship, and postdoctoral settings.

Manuscripts for TEPP can be research or theory based. All manuscripts must focus on the practical implications of the proposed theory or summarized research.

Any topic in the general area of supervision, training, or the process of education leading to licensure is appropriate for examination and discussion in TEPP.

TEPP manuscripts examine such topics as:

- Supervision theory and process
- Supervision procedures
- Supervisory relationship
- Supervisee problems and due process issues
- Training activities
- Ethical and legal aspects of training and supervision
- Boundary issues
- Training in research and scholarly activity
- Research into the process of supervision
- The process of training leading to licensure

Special thematic issues of the journal will provide in-depth examination of a particular training and education topic.

### **Manuscripts**

Manuscripts should be approximately 25 pages in length in total including tables and references (more pages must be strongly justified).

Each manuscript should conclude with a specific section on the implications of the research or theory presented.

Manuscripts should be written with the goal of enhancing the practice of education, training, and supervision.

### **Review Policy**

Once TEPP receives a manuscript, the Editor reviews the manuscript for appropriateness for publication and competitiveness for publication in TEPP. If appropriate, the Editor assigns the manuscript to an Associate Editor who seeks blind review by at least two consulting editors or ad hoc reviewers.

The editorial review process takes approximately 60 to 90 days for the author to receive editorial comment about the manuscript

### **Manuscript Preparation**

Prepare manuscripts according to the Publication Manual of the American Psychological Association (6th edition). Manuscripts may be copyedited for bias-free language (see Chapter 3 of the Publication Manual).

Review APA's Checklist for Manuscript Submission before submitting your article.

If your manuscript was mask reviewed, please ensure that the final version for production includes a byline and full author note for typesetting.

Double-space all copy. Other formatting instructions, as well as instructions on preparing tables, figures, references, metrics, and abstracts, appear in the Manual. Additional guidance on APA Style is available on the APA Style website.

Below are additional instructions regarding the preparation of display equations, computer code, and tables.

### *Display Equations*

We strongly encourage you to use MathType (third-party software) or Equation Editor 3.0 (built into pre-2007 versions of Word) to construct your equations, rather than the equation support that is built into Word 2007 and Word 2010. Equations composed with the built-in Word 2007/Word 2010 equation support are converted to low-resolution graphics when they enter the production process and must be rekeyed by the typesetter, which may introduce errors.

To construct your equations with MathType or Equation Editor 3.0:

Go to the Text section of the Insert tab and select Object. Select MathType or Equation Editor 3.0 in the drop-down menu.

If you have an equation that has already been produced using Microsoft Word 2007 or 2010 and you have access to the full version of MathType 6.5 or later, you can convert this equation to MathType by clicking on MathType Insert Equation. Copy the equation from Microsoft Word and paste it into the MathType box. Verify that your equation is correct, click File, and then click Update. Your equation has now been inserted into your Word file as a MathType Equation.

Use Equation Editor 3.0 or MathType only for equations or for formulas that cannot be produced as Word text using the Times or Symbol font.

### *Computer Code*



Because altering computer code in any way (e.g., indents, line spacing, line breaks, page breaks) during the typesetting process could alter its meaning, we treat computer code differently from the rest of your article in our production process. To that end, we request separate files for computer code.

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We request that runnable source code be included as supplemental material to the article. For more information, visit [Supplementing Your Article With Online Material](#).

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If you would like to include code in the text of your published manuscript, please submit a separate file with your code exactly as you want it to appear, using Courier New font with a type size of 8 points. We will make an image of each segment of code in your article that exceeds 40 characters in length. (Shorter snippets of code that appear in text will be typeset in Courier New and run in with the rest of the text.) If an appendix contains a mix of code and explanatory text, please submit a file that contains the entire appendix, with the code keyed in 8-point Courier New.

#### *Tables*

Use Word's Insert Table function when you create tables. Using spaces or tabs in your table will create problems when the table is typeset and may result in errors.

#### **Submitting Supplemental Materials**

APA can place supplemental materials online, available via the published article in the PsycARTICLES® database. Please see [Supplementing Your Article With Online Material](#) for more details.

#### **Abstract and Keywords**

All manuscripts must include an abstract containing a maximum of 250 words typed on a separate page. After the abstract, please supply up to five keywords or brief phrases.

#### **References**

List references in alphabetical order. Each listed reference should be cited in text, and each text citation should be listed in the References section.

Examples of basic reference formats:

Journal Article:

Hughes, G., Desantis, A., & Waszak, F. (2013). Mechanisms of intentional binding and sensory attenuation: The role of temporal prediction, temporal control, identity prediction, and motor prediction. *Psychological Bulletin*, 139, 133–151.

<http://dx.doi.org/10.1037/a0028566>

Authored Book: Rogers, T. T., & McClelland, J. L. (2004). *Semantic cognition: A parallel distributed processing approach*. Cambridge, MA: MIT Press.

Chapter in an edited Book: Gill, M. J., & Sypher, B. D. (2009). Workplace incivility and organizational trust. In P. Lutgen-Sandvik & B. D. Sypher (Eds.), *Destructive organizational communication: Processes, consequences, and constructive ways of organizing* (pp. 53–73). New York, NY: Taylor & Francis.

## **Figures**

Graphics files are welcome if supplied as Tiff or EPS files. Multipanel figures (i.e., figures with parts labeled a, b, c, d, etc.) should be assembled into one file.

The minimum line weight for line art is 0.5 point for optimal printing.

For more information about acceptable resolutions, fonts, sizing, and other figure issues, please see the general guidelines.

When possible, please place symbol legends below the figure instead of to the side.

APA offers authors the option to publish their figures online in color without the costs associated with print publication of color figures.

The same caption will appear on both the online (color) and print (black and white) versions. To ensure that the figure can be understood in both formats, authors should add alternative wording (e.g., "the red (dark gray) bars represent") as needed.

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It is a violation of APA Ethical Principles to publish "as original data, data that have been previously published" (Standard 8.13).

In addition, APA Ethical Principles specify that "after research results are published, psychologists do not withhold the data on which their conclusions are based from other competent professionals who seek to verify the substantive

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APA expects authors to adhere to these standards. Specifically, APA expects authors to have their data available throughout the editorial review process and for at least 5 years after the date of publication.

Authors are required to state in writing that they have complied with APA ethical standards in the treatment of their sample, human or animal, or to describe the details of treatment.

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The APA Ethics Office provides the full Ethical Principles of Psychologists and Code of Conduct electronically on its website in HTML, PDF, and Word format. You may also request a copy by emailing or calling the APA Ethics Office (202-336-5930). You may also read "Ethical Principles," December 1992, *American Psychologist*, Vol. 47, pp. 1597–1611.

# **Paper 3: Commentary and Reflective Review**

**A reflective account of the research journey**

Word count: 2260 (excluding references)

## **ABSTRACT**

Paper three provides a reflective commentary on the process of completing papers one and two. The author reflects on the experiences that developed their interest in the application of Acceptance and Commitment Therapy (ACT) to reducing stress. Personal reflections are offered on the challenge of undertaking doctoral research along with learning points and suggestions for future research.

## **Introduction**

The purpose of this report is to provide a reflexive account of the author's experience of completing papers one and two. Personal reflections are offered on challenges, successes and learning points experienced as a result of engaging with the process of research. The report is written in first person account to provide an authentic insight to the research journey.

## **Background**

My decision to pursue clinical training was strongly connected to my values around personal and professional development. My various roles in psychology services afforded me with significant opportunities in which to grow and develop both as a person and professional. I was excited by the challenge of further developing my clinical and research skills in order to fulfil my ambition of becoming a clinical psychologist. Supervisors and colleagues attempted to prepare me for the reality of clinical training through discussions about the difficulties I might encounter. However, I was naïve to believe that I would be fine. By the fourth week of training I felt anxious, vulnerable and incompetent due to a perceived lack of knowledge; one might describe these thoughts and feelings as internal stressors. I also had to contend with external stressors such as long commutes, challenging peer relationships, clinical work and various assignments. My usual coping strategies of talking to friends, seeking advice and engaging in physical activity helped to alleviate my distress to some extent; though, I frequently found myself in a battle with my beliefs and emotions.

I decided to pursue the topic of stress in trainees because I felt dissatisfied with the half day teaching session on stress management that was provided during the first term of training. The session appeared to be informed by cognitive models of stress such as the Transaction model of stress and coping (Lazarus & Folkman, 1984) which conceptualises stress as a state of cognitive, emotional, and physical strain that occurs in response to a perceived imbalance between the environmental demands and ability to cope. The first half of the session focused on identifying and reflecting on the stressors encountered thus far. The latter half was devoted to developing a 'personal stress management plan' using cognitive and behavioural techniques such as cognitive restructuring, problem solving and

activity scheduling. However, the process of developing the plan felt meaningless and my motivation to follow it was extremely low.

I was introduced to Acceptance and Commitment Therapy (ACT) during a conversation with a friend. While I was intrigued by the focus on developing acceptance and mindfulness skills; the concepts of values and committed action seemed both useful and meaningful for reasons unknown to me at the time. I was curious as to how this approach could benefit trainees, and was inspired by the results of paper examining the relationship between the ACT processes and stress with trainee clinical psychologists (Pakenham, 2014). Although my understanding of ACT was limited, I was excited about the possibility of exploring how this model might relate to stress, as experienced by trainees in the UK. Furthermore, I felt that extending the current knowledge base regarding the psychological processes that influence stress could potentially lead to interventions that might alleviate stress within this population.

### **Literature review**

My relationship with the literature review was hopeful at best and toxic at worst. I began this journey with 'high hopes' of providing meaningful knowledge about the nature and effectiveness of ACT interventions to reduce stress. I was aware of at least four papers that examined ACT with trainee clinical psychologists and social workers, and naively anticipated that I would be able to find more. Hence, I initially focused my review on 'healthcare workers'. I assumed that I would be able to find at least eight papers, and thus approached the task of searching for papers with high levels of enthusiasm and motivation. However, after a week of searching databases, reviewing abstracts and subsequently finding few papers, I began to feel despondent. At this point my relationship with the literature review became strained. As a consequence of finding so few papers, I made the decision to revise my question and focus on the broader category of 'the helping professions' in order to include a greater number of papers, and result in being able to produce a viable review. While I was able to identify a more substantial number of papers, I was somewhat unsure about the suitability of the term 'helping professions'. Despite these concerns, I continued to write my first draft in the hope that I would be able to address this issue at a later stage.



The process of writing the literature review was by the far the most challenging aspect of the course. This is mostly due to the difficulties I experienced with identifying a coherent structure for the results/synthesis section. Upon reflection, I now realise that I did not understand what I was been asked to do. I underestimated the enormity of task and did not give myself enough time to develop a coherent understanding. My response to feedback from my research supervisor was to start again, and I did this five times. My fourth attempt at writing this section resulted in me feeling drained, fed up and intellectually burnt out. I lost confidence in my ability to write which led me to spend hours writing and re-writing sentences. Cushway (1992) identified professional self-doubt (unhelpful beliefs about one's ability) as the greatest source of stress amongst trainee clinical psychologist. I can honestly say that the challenges I experienced while writing my literature review led me to significantly doubt my intellectual abilities and question my place on the course. Though on reflection, I recognise that some of this doubt stems from my own beliefs about around not being 'good enough' and not being 'clever enough' which were activated by the writing process.

### **Research report**

I originally set out to replicate the study undertaken by Pakenham (2014). However, on further examination of the paper I realised that there were inconsistencies in how the ACT processes had been measured. The ACT processes as described by Hayes, Strosahl and Wilson (2012) are: contact with the present moment, self as context, acceptance, defusion, committed action and values. However, only two of these processes, acceptance and values were directly measured. Unaware of the help and advice I could gain through the ACT research community; I chose to employ two of the subscales from the Five Factor Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer & Hopkins, 2006) to measure 'contact with the present moment' and 'self as context' on basis of my own opinion about how best to operationalise these constructs. I have since made contact with Steven Hayes (one of the originators of ACT) and discussed my concerns about my chosen measures. Not only did he send me a copy of a recently designed measure of self as context, The Reno Inventory of Self Perspective (Jeffcoat, 2015); he also provided the details of other researchers who might help me with identifying more suitable measures. I have also joined the

'ACT for Professionals' Special Interest group which in hindsight might have provided a useful forum in which to receive advice and feedback on methodology.

The sample size requirements for my study demanded that I recruited 101 participants. I assumed Course Directors would facilitate my recruitments requests by forwarding the invite to their trainees. This was mostly the case for those that replied. However, three responded to state that they were unable to disseminate external research, one asked me to submit my research proposal to their internal ethical review panel and another asked me to contextualise my study in accordance with Relational Frame Theory. I agreed to submit the first request and declined the latter. I was able to recruit the required number of participants within four weeks, my first research success. Although, when I downloaded the data for analysis; I identified several cases whereby participants had not provided any responses to the questions and a few cases with missing data. This meant I had to reopen the study in the hope of recruiting more trainees, which I was able to do.

I was particularly proud of myself for undertaking regression analysis. Despite completing a BSc, an MSc and two years of doctoral research training; I have never felt confident with conducting and interpreting inferential statistics. I describe the process of analysing my data as being iterative in nature. I read books, watched you tube videos, input my data, referred to my research notes and discussed the findings with my tutor. I repeated this cycle four times, though this mostly due to me making mistakes when running the analysis. As a result of this process I have a better understanding of my data feel less apprehensive about undertaking statistical analysis in the future. Another research success.

It is unfortunate that my confidence in interpreting my data did not translate into confidence in explaining my data. I initially struggled to make sense of my results which I partly blamed on my limited knowledge of ACT. I read books, watched videos, spoke with peers and yet struggled to write a coherent discussion. When I came to write a second draft I found my thinking was 'blocked'. Upon reflection, this 'blockage' in thinking was most likely a reflection of my anxiety about my ideas 'being good enough'. I addressed this 'blockage' by talking through my ideas with a tutor who specialises in ACT, this gave me 'permission' to hypothesise and be creative with my explanations of the data. This resulted in me being able to organise my ideas into a coherent structure. My third research success.

## **Areas for future research**

- Further research is needed to replicate my empirical study within using measures that accurately reflect each of the ACT processes in order to extend current knowledge regarding the utility of the ACT model.
- To date there has only been one study that evaluated the effectiveness of an ACT intervention with trainee clinical psychologists (Stafford-Brown & Pakenham, 2012). More studies are needed to replicate the findings with trainees in other countries in order to further qualify the outcome.
- A greater number of high quality studies are needed to examine the effectiveness of ACT interventions with a broader range of staff working in health and social care settings. Longer follow ups are needed to determine the duration of the effect and to also examine the impact on organisational outcomes such as staff sickness.
- Future research should seek to compare ACT with Cognitive Behavioural Therapy in order to determine what works best.
- Those wishing to undertake ACT research should consider engaging with the ACT research community for advice, feedback and potential collaboration.

## **Personal reflections and learning**

My knowledge and understanding of ACT has developed over the two years I have spent working on my thesis. In line with my values around personal and professional development, I have decided to pursue further training so that I might learn how to apply the model to clinical practice.

Enhancing staff wellbeing has become a significant part of my role as trainee clinical psychologist working in an Eating Disorders Service. Having recently introduced a staff mindfulness group which was well attended, I am currently in the process of developing an ACT stress management group. The findings of my literature review have provided me with useful information about tailoring the intervention to context by exploring common stressors and examining staff values. I look forward to sharing the outcome of this intervention with the ACT community.

The emotional challenges encountered through undertaking this research have made me acutely aware of my personal struggle with unwanted thoughts around

not being 'good enough' which has also been a recurring theme throughout clinical training). At times, I have coped by avoiding challenging situations and/or not asking for help which has been counterproductive. In some ways, this experience has motivated me live more consistently with my values around personal and professional development and, health. Hence, I am considering developing a new personal stress 'plan' though the focus will be on identifying and engaging in values directed behaviours. I anticipate that I will be more likely to adhere to this plan as it will be grounded in my core values.

## **Conclusion**

Training in clinical psychology presents numerous challenges, one of which is undertaking the research thesis. There have been many occasions in which I have found myself struggling to manage the difficult thoughts and feelings that surfaced during my research journey. As a consequence, I have found myself wanting to give up. However, resisting the reality of the situation only led me to become overwhelmed and despondent. Considering the workability of my counterproductive behaviour and reconnecting with my values ignited my motivation which enabled me to keep going and complete this thesis. This also helped me to reframe the research journey as a learning experience.

I have learnt a lot about the importance of selecting the right measures, defining research questions, analysing/synthesising data and explaining findings. I feel more equipped to engage with clinical research activity such service evaluation and audit in my role as a Clinical Psychologist. I also feel this knowledge and experience has provided a useful foundation should I wish to pursue future research projects in my role as a clinical psychologist.

## REFERENCES

- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13(1), 27-45. doi: 10.1177/1073191105283504
- Cushway, D. (1992). Stress in clinical psychology trainees. *British journal of clinical psychology*, 31(2), 169-179. doi: 10.1111/j.2044-8260.1992.tb00981.x
- Hayes, S.C, Strosahl, K.D., & Wilson, K.G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd edition). New York, NY: The Guilford Press.
- Jeffcoat, T. (2015). *Development of the Reno Inventory of Self-Perspective (RISP); Measuring self in the ACT model* (Unpublished doctoral dissertation). University of Nevada, Nevada.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer Publishing Company.
- Pakenham, K. I. (2015). Investigation of the utility of the acceptance and commitment therapy (ACT) framework for fostering self-care in clinical psychology trainees. *Training and Education in Professional Psychology*, 9(2), 144. doi: 10.1037/tep0000074
- Stafford-Brown, J., & Pakenham, K. I. (2012). The effectiveness of an ACT informed intervention for managing stress and improving therapist qualities in clinical psychology trainees. *Journal of clinical psychology*, 68(6), 592-513. doi: 10.1002/jclp.21844