Title: Acceptance and Mindfulness-based Stress Management for support staff caring for individuals with intellectual disabilities

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ABSTRACT

Support staff working with individuals with intellectual disability (ID) and challenging behaviour experience high levels of work-related stress. Preliminary theoretical and experimental research has highlighted the potential suitability of acceptance and mindfulness approaches for addressing support staff stress. This study examines the effectiveness of an acceptance and mindfulness-based stress management workshop on the levels of psychological distress and well-being of support staff working with individuals with ID and challenging behaviour. Support staff (n=120) were randomly assigned to a workshop intervention condition (n=66) or to a waiting list control condition (n=54). Measurements were completed at three time points (pre-, post and six week follow-up) for: psychological distress, well-being, perceived work stressors, thought suppression, and emotional avoidance/psychological inflexibility. Main Findings: The intervention led to significantly greater reductions in distress in the intervention group than in the control group. This was largely maintained at six week follow-up. This effect was more pronounced amongst a subsample that had shown higher levels of psychological distress at baseline. Thought suppression was found to reduce significantly in the intervention group between post intervention and follow-up, although no significant change was found in well-being or experiential avoidance/psychological inflexibility. Overall, results demonstrated support for the effectiveness of an acceptance and mindfulness-based intervention in reducing distress.

Keywords: Intellectual Disability; Learning Disability; Mindfulness; Acceptance and Commitment Therapy; Support Workers.

1. Introduction

1.1 Background

Support staff who work in intellectual disability (ID) services regularly encounter emotionally and physically challenging situations within their working environment (Blumenthal, Lavender, & Hewson, 1998). In a UK survey, approximately one third reported clinically significant levels of psychological distress (Hatton et al., 1999). Research suggests an extensive range of stress-inducing factors for such staff (Devereux, Hastings, & Noone, 2009). These include: their client characteristics (Dyer & Quine, 1998) including the nature of their challenging behaviours (Jenkins, Rose, & Lovell, 1997); the long hours, work load and staff shift patterns (White, Edwards, & Townsend-White, 2006); the nature of working relationships and the amount of support staff receive (Rose, Madurai, Thomas, Duffy, & Oyebode, 2010); factors relating to the organisational structure and climate (Blumenthal et al., 1998), and career development issues, including job security fears, lack of appropriate training or progression (Hatton et al., 2001).

The stress levels and well-being of support staff are therefore of critical importance, not only for the individual and the service user, but also the wider service (Skirrow & Hatton, 2007). Those working in high stress environments are more likely to use mal-adaptive coping strategies such as substance misuse, poor diet and other unhealthy lifestyle factors (Piko, 1999). As well as being linked to mental health difficulties, stress has also been found to affect immune system function (Khansari, Murgo, & Faith, 1990). Stressed individuals are more likely to develop chronic diseases and conditions such as cancer, cardio-vascular disease and diabetes as well as colds and coughs (Melamed, Shirom, Toker, Berliner, & Shapira, 2006). Stressed support staff are less productive, less likely to assist clients in tasks, and interact less often with them. (Hastings & Remington, 1994; Lawson & O Brien, 1994; Rose, Jones, & Fletcher, 1998). Evidence also suggests that in work environments with high staff stress levels there is an increased risk of incidents of both physical and mental abuse towards individuals with ID (White, Holland, Marsland, & Oakes, 2003). Stressed support

staff inevitably impact on the wider organisation in terms of higher absenteeism rates and staff resignations/turnover (Thompson & Rose, 2011), thus resulting in considerable financial costs in staff cover and recruitment, as well as low staff morale. Hence quality and continuity of care is directly affected (Lin et al., 2009).

Despite mounting evidence highlighting the causes of staff stress, its negative impact, and the responsibility that organisations have for employees' well-being (Leka, Jain, Zwetsloot, & Cox, 2010), to date there has been little research addressing this. While a recent meta-analysis revealed that cognitive behavioural therapy (CBT)-based problem-solving approaches are the most established interventions for work-related stress (Richardson & Rothstein, 2008), there have only been a few studies applying such approaches to support staff in ID services (Gardner, Rose, Mason, Tyler, & Cushway, 2005; Innstrand, Espnes, & Mykletun, 2004).

In conventional CBT, emphasis is often placed on changing the situations which relate to the difficult emotions, or processing such thoughts, feelings, and sensations differently by means of through thought challenging/cognitive restructuring (Longmore & Worrell, 2007). Support staff in ID, however, commonly face distressing experiences (Robertson et al., 2005), where it may not be possible to change, challenge, or problem solve the resulting thoughts and emotions. Indeed, it has been proposed that analysing and unsuccessfully struggling to problem solve their distressing experiences can actually lead to further psychological distress (Hayes, Strosahl, & Wilson, 1999).

Recent studies have suggested that carers of individuals with ID who use maladaptive emotion-focused coping strategies such as thought suppression, avoidance of negative emotions, thoughts and bodily sensations have higher stress levels and are more likely to experience "burnout" (Devereux, Hastings, Noone, Firth, & Totsika, 2009; MacDonald, Hastings, & Fitzsimons, 2010). It has been argued that mindfulness-based interventions

(MBI) such as Acceptance and Commitment Therapy (ACT) may be particularly applicable to this population (Noone & Hastings, 2011). They specifically aim to target these maladaptive emotion-focused coping strategies and promote an attitude of acceptance and being with difficult thoughts and feelings (MacDonald et al., 2010).

Research on the application of mindfulness-based interventions with support staff reports positive findings for both staff and the individuals with ID they support (Harper, Webb, & Rayner, 2013; Hwang & Kearney, 2013), although research has been limited by the influence of potential confounding variables, small sample sizes and a lack of control comparisons (Chapman et al., 2013). Preliminary results suggest, however, that being a more mindful carer has beneficial effects. These may include increased client happiness and ability to learn, reduced levels of aggression, non-compliance, self-injury and injuries to carers and peers; as well as increased social and community integration (Singh, Lancioni, Winton, Fisher, et al., 2006; Singh et al., 2007; Singh et al., 2004). In addition, the training of carers in mindfulness may enhance the effects of behavioural management training (Singh, Lancioni, Winton, Curtis, et al., 2006), and reduce the need for the use of physical restraints and stat medications with clients (Singh et al., 2009). Research also indicates that MBI offers benefits for support staff, including improved psychological health and satisfaction with caring and reduced stress (Bethay, Wilson, Schnetzer, Nassar, & Bordieri, 2012; Noone & Hastings, 2009; Noone & Hastings, 2010; Singh et al., 2006; Singh et al., 2009; Smith & Gore, 2012); and that this can occur despite staff perceptions of level of stressors in the work environment being unchanged (Noone & Hastings, 2009; 2010). This latter result was hypothesised by Noone and Hastings (2010) to have resulted from an increase in psychological resilience through targeting maladaptive emotion-focused coping strategies (i.e. experiential avoidance/psychological inflexibility). Preliminary evidence also suggests that acceptance and mindfulness based workshops may have the greatest impact on those with the highest

levels of psychological distress pre-intervention (Bethay et al., 2012; Bethay, 2010; Flaxman & Bond, 2010b). These are promising findings, however, they need to be considered in the context of the research limitations outlined above (Harper et al., 2013).

1.2 Aims of the study

The current study aimed to further explore the application of an acceptance and mindfulness-based intervention with support staff working in ID services, using a design that sought to address limitations of previous research in this area. The impact of the workshop intervention on the psychological distress and wellbeing of participants, as compared with waiting list control group participants, was investigated. In addition, this study aimed to enhance understanding of potential process variables influencing the outcome of the intervention. This study aimed to address the following hypotheses:

1.3 Hypotheses:

1. The acceptance and mindfulness-based workshop will significantly reduce psychological distress and increase well-being in support staff (post intervention and follow up) working with individuals with ID in comparison with a control group.

2) Support staff who receive the workshop will have significantly greater reductions in thought suppression and experiential avoidance/psychological inflexibility in comparison to support staff in the control condition (at post intervention and follow up).

3) There will be greater improvements in levels of: a) psychological distress; b) well-being; c) thought suppression and d) experiential avoidance/psychological inflexibility, amongst those with pre-intervention scores that indicate clinically significant distress, as indicated by larger effect sizes.

2. Method

2.1 Design

The study employed a longitudinal mixed between-within subjects design.

2.2 Participants

2.2.1 Participant recruitment

Independent care organizations working with individuals with ID were invited to participate in the study. They were asked to provide a list of names of potential support staff involved in the direct care of individuals with ID who displayed challenging behaviour. Inclusion criteria were that participants were over 18 years, able to provide informed consent, and had at least six months experience of working within ID services. All potential participants were then randomly assigned (see 2.2.2) and asked to contact their line managers if they would like to participate. In total, 120 staff agreed to participate. Those who were allocated to the control condition were offered the opportunity to attend a workshop following the end of data collection.

2.2.2 Randomisation Procedure

Permuted block randomisation was used to generate quasi-random numbers (www.jerrydallal.com/random/random_block_size.htm) to allocate the 120 participants to the intervention or control conditions (see figure 1).

INSERT FIGURE 1 ABOUT HERE

2.3 Measures

All participants completed measures at the same time points (see Figure 1).

2.3.1 Demographic Information

Demographic data were collected on gender, age, education, hours of working, and years of experience working in ID services.

2.3.2 Primary Outcome Measure

Psychological distress: The *General Health Questionnaire-12 (GHQ-12*;Goldberg, 1992) contains 12 items and displays good content, construct validity and internal consistency (Goldberg & Bridges, 1987; Goldberg & Williams, 2006). Likert scoring was used, with higher scores indicating higher levels of psychological distress. In the present study the Cronbach's alpha scores were .872 at pre, .774 at post and .791 at follow up.

2.3.3 Secondary Outcome Measures

Psychological well-being: The *Warwick-Edinburgh Mental Well-Being Scale (WEMWBS*: Tennant et al., 2007) consists of 14 items rated on a five-point scale with higher scores

indicating greater well-being. It has been standardised on a UK population and measures positive mental health, including subjective experience of happiness and life satisfaction, and perspectives on psychological functioning and personal relationships (Lindsay, Strand, & Davis, 2011). This scale has good content validity, has moderately high correlations with other mental health scales (Tennant et al., 2007), and displays good levels of internal consistency, having a Cronbach's alpha of 0.91 (Tennant et al., 2007). In the present study the Cronbach's alpha scores were .908 at pre-, .876 at post, and .887 at follow-up.

Staff perception of work stressors: The *Staff Stressor Questionnaire (SSQ:* Hatton et al., 1999) contains 33 items relating to potential work stressors in ID service environments including service user related factors, organisational factors and support related factors. It provides a total score based on the sum of the ratings for all 33 items, with higher scores indicating higher perceived levels of work stressors. It has good internal reliability (Devereux et al., 2009; Hatton et al., 1999), and in the present study the Cronbach's alpha score was .921 at pre-, .922 at post and .918 at follow-up.

2.3.4 Process Measures

Experiential avoidance/psychological inflexibility: the *Acceptance and Action Questionnaire-II* (*AAQ-II*: Bond et al., 2011) was used to measure the extent to which support staff were able to experience upsetting or difficult thoughts, feelings and emotions without trying to suppress or avoid them. It comprises of 7 items with a seven-point response format with higher scores indicating greater experiential avoidance/psychological inflexibility. It correlates at .82 with the *AAQ* (Hayes, Strosahl, Wilson, Bissett, Batten, et al., 2004) and has satisfactory structure, reliability and validity (Hayes, Strosahl, Wilson, Bissett, Pistorello, et

al., 2004). In the present study the Cronbach's alpha scores were .860 at pre-, .830 at post and .849 at follow-up.

Thought suppression: the *White Bear Suppression Inventory (WBSI*: Wegner & Zanakos, 1994). Thought suppression is the process of deliberately trying to stop thinking about certain thoughts. Participants were asked to rate how strongly they agree with 15 statements (e.g. "I wish I could stop thinking about certain things") on a five-point scale (1 = disagree to 5 strongly agree). The *WBSI* has been found to have acceptable levels of internal consistency (alpha = .87 to .89: Wegner & Zanakos, 1994). In the present study the Cronbach's alpha values were .927 at pre-, .925 at post and .915 at follow-up.

2.4 Procedure

2.4.1 Acceptance and Mindfulness Workshop

The intervention consisted of an Acceptance and Mindfulness Workshop derived from a protocol based on the core principles of Acceptance and Commitment therapy (ACT: Bond & Hayes, 2002; Bond & Bunce, 2000; Hayes et al., 1999), and adapted for use within ID services by Noone and Hastings (2009; 2010). A detailed treatment protocol is available in Bond and Hayes (2002), [see also Noone and Hastings, 2009 and Bethay, Wilson and Moyer, 2009]. The major components of the intervention include increasing mindfulness and psychological acceptance of thoughts, feelings and sensations, reducing the literal control of thoughts and language over behaviour, and defining values and creating goals (Bond & Hayes, 2002). It is proposed that increases in mindfulness and acceptance free up cognitive resources, and that value driven behaviour may aid increased behaviour activation. The overall aim of the workshop was to change the way support staff reacted to stressful

situations, such as supporting a client with ID and who displayed behaviour that challenges. The workshop involved the use of didactic teaching, group discussions, written exercises, the use of metaphors, short video presentations and practical and interactive exercises - all of which aimed to illustrate the key components of the intervention. Mindfulness exercises were practised during sessions, and given as homework assignments to be completed between sessions. The intervention consisted of a full day workshop, followed by a half day refresher session after six weeks. Group sizes varied between 3 and 10 participants.

Participants assigned to the waiting list control group received no intervention, but were invited to attend a workshop after data collection was completed.

2.4.2 Completion of Measures

All participants completed measures at the same time points (see Figure 1). In the intervention group, participants completed measures prior to the start of the workshop (time 1), then after six weeks at the refresher session completed post-measures (time 2). Follow-up measures were completed after a further six weeks (time 3). Line managers co-ordinated the distribution and return of all questionnaires for the control condition and follow-up for all participants.

2.5 Statistical analysis

2.5.1 Preliminary Analysis

Preliminary data screening operations were performed using SPSS (version 19) (Fidell & Tabachnick, 2006). Missing items were below 0.5% with no observable pattern.

2.5.2 Demographic information

The participant characteristics are displayed in Table 1. No significant differences were found between the intervention and control groups in relation to age, experience of working in ID services, hours worked per week, gender, professional qualifications or education.

INSERT TABLE 1 ABOUT HERE

2.5.3 Attrition

There were similar levels of attrition from both the intervention and control group (see figure 1). The data was found to be missing completely at random (MCAR)(Schlomer, Bauman, & Card, 2010) considering all cases and outcome measures MCAR ($p>.05$)($X^2=30.686$, df=27, p=.284). The Missing data values were replaced using Expectation Maximization (Mayer, Muche, & Hohl, 2012).

2.5.4 Main Statistical Analysis

The analysis compared the differences in outcomes between the intervention group and the control group across the three time points (pre-, post and six week follow-up). Exploratory Multiple Linear Regression was undertaken to identify variables that contributed to overall variance for the dependent variables (*GHQ* and *WEMWBS*) in order to identify potential covariates. Correlations between each variable were examined to ensure that they did not exceed .9, and inspection of Tolerance and Variance Inflation Factors (VIF)

concluded that multicollinearity assumptions were not violated (Field, 2011, p.223). Mixed ANOVAs were used, with each dependent variable analysed independently. For significant effects, post hoc Bonferroni repeated measures comparisons across time were completed. Effect sizes (ES) were reported using partial eta squared (η^2) utilising guidelines proposed by Cohen (1988).

3. Results

3.1 Main Results

Hypothesis 1: Effect of Intervention on Psychological Distress

A significant interaction effect for time * condition was found, suggesting there was a significant difference in the pattern of distress scores between the intervention and control groups over the three time points (see Table 3). Post hoc Bonferroni procedures for repeated measures comparisons across time found that in the intervention condition there was a significant reduction in *GHQ distress* scores between pre-and post- intervention (p=.001); a significant increase between post and follow-up (p=.0001) and a significant reduction between pre- and follow-up scores (p=.048). The control group had less pronounced reductions in distress scores between pre-and post (p=.048), and between pre and follow up (p=.017).

Effect of Intervention on Well-Being:

No significant interaction effect was found for the *WEMWBS* well-being scores for time * condition.

Hypothesis 2- *Effect of Intervention on Thought Suppression and Experiential Avoidance*

A significant interaction effect for time * condition was found (see table 3). Post Hoc analysis found a significant reduction in thought suppression (*WBSI*) scores between post and follow-up in the intervention group (p=.005). No other significant results were found.

No significant interaction effect for time * condition was found for the *AAQ-II* measure of experiential avoidance / psychological flexibility.

Hypothesis 3- Clinically Distressed Group

Additional exploratory analyses were undertaken to examine the effect of the intervention for individuals who exhibited clinically significant levels of baseline psychological distress (i.e. *GHQ*-12 score greater than 11. Previous research has shown this to predict the presence of a clinically significant level of psychological distress, with 78.9% sensitivity and 77.4 % specificity (Goldberg et al., 1997)). Workshop interventions, similar to that used in the present study, have been shown in the past to have had a greater effect on individuals with higher levels of psychological distress at pre-intervention (Bethay, 2010; Flaxman & Bond, 2010b; Noone & Hastings, 2010). Thirty three participants in the intervention group and 32 in the control group scored above this *GHQ*>11 cut off point. Mean scores and standard deviations on the outcome measures for these participants are displayed in Table 4.

Psychological Distress

A significant interaction effect was found for *GHQ* distress scores for time * condition. Post Hoc analysis found a similar pattern to the analysis of all participant data, with the intervention group showing significant reductions in psychological distress between time 1 and 2 (p<.001), and time1 and 3 (p<.001), with a significant increase in distress

between 2 and 3 (p=.040). The control group experienced significant reductions between time 1 to 2 (p=.002), and 1 to 3 (p<.001), but no significant change between time 2 and time 3.

INSERT FIGURE 2 ABOUT HERE

INSERT TABLE 3 ABOUT HERE

INSERT TABLE 4 ABOUT HERE

Psychological Well-being

No significant interaction effect for time by condition was found for *WEMWBS* scores.

Thought Suppression

A significant interaction effect for time by condition was found for thought suppression. Post hoc analysis found a significant drop in *WBSI* scores in the intervention group between time 2 and 3 (p=.002), and between time 1 and 3 (p=.028).

Experiential Avoidance/Psychological Inflexibility

No significant interaction effect was found for condition by time for the *AAQ-II*.

4. Discussion

4.1 Discussion of the results

We aimed to examine the effect of an acceptance and mindfulness-based stress management workshop on levels of psychological distress and well-being of support staff working with individuals with ID and challenging behaviour. The results highlighted its the

positive impact of the workshop on the psychological distress of support staff, with a significant interaction effect of time by condition. Psychological distress in all support staff reduced significantly from pre-intervention to follow-up, despite their perceived level of work stressors increasing. The benefits of the intervention relative to the control group were more apparent amongst those who had baseline scores indicative of clinically significant distress. This result is consistent with previous research which implemented similar workshop based interventions to address work-related stress (Bond & Bunce, 2003; Brinkborg, Michanek, Hesser, & Berglund, 2011; Flaxman & Bond, 2010a, 2010b), and in ID services (Bethay et al., 2012; Bethay, 2010; Noone & Hastings, 2009; Noone & Hastings, 2010; Schwetschenau, 2009; Smith & Gore, 2012). The significant improvements in psychological distress in the intervention group were maintained at follow-up, although there was a modest increase in distress between post intervention and follow-up. One possible explanation may be that participants in the intervention group stopped practising the techniques and skills they had learnt in the workshops. Regular practising of mindfulness may be necessary in order to fully derive benefits such as reduced psychological distress and improved well-being (Carmody & Baer, 2008; Huppert & Johnson, 2010; Kabat-Zinn, 2003). Alternatively, this increase in distress between post intervention and follow-up may have been due to participants being unable to retain workshop information, this being one of the major challenges of providing effective training workshops (Baldwin & Ford, 1988).

There was also a significant, albeit notably smaller, reduction in psychological distress in the control group between pre and post intervention. This reduction may be due to a number of factors, including the control group participants' expectation of attending a stress management workshop in the future (Schwetschenau, 2009). There are also possible direct and indirect contamination effects. A direct effect may be that support staff in the intervention group may have conveyed techniques and skills learned in the workshop.

Alternatively, indirect effects could be due to support staff in the intervention group being less stressed, which may have reduced overall workplace stress, thus having a beneficial effect for control group colleagues. There are also external influences, such as changes in client, work or home related factors (Mutkins, Brown, & Thorsteinsson, 2011). The present study however, found that changes in perceived levels of work stressors did not contribute to the variance explained in *GHQ* scores.

Support was not found for any positive impact of the workshop on support staff well-being. This could be because the *WEMWBS* was not sensitive enough to detect significant changes, though seems likely to be partially due to the fact that baseline wellbeing scores in the current study were close to the population median (51), highlighting that there may not have been much possibility for improvement in well-being as measured by the *WEMWBS* (Tennant et al., 2007).

In addition, we sought to provide an exploration of the underlying process variables that may account for any changes in psychological distress that resulted from the acceptance and mindfulness workshop. In terms of thought suppression, the results suggested a delayed positive impact of the workshop in the intervention group with a significant drop in thought suppression between time 2 (post intervention) and time 3 (follow-up). It is unclear if this result was due to a delayed effect of the workshop, or simply reflected a regression to the mean effect (Bland & Altman, 1994).

One of the main goals of the acceptance and mindfulness-based workshop was to reduce experiential avoidance, or 'psychological inflexibility' (Hayes et al., 2006). However the current study, in line with recent research in ID services (Smith & Gore, 2012), found no significant changes in these factors. This result is at odds with previous research which has applied similar treatment protocols and found significant changes, although these studies used earlier versions of the *AAQ* rather than the seven-item version used in the current study (Bond

& Bunce, 2000; Flaxman & Bond, 2010a, 2010b). This may indicate that the *AAQ-II* was not sensitive enough to detect change. The *AAQ-II* has recently been revised due to concerns regarding its psychometric properties (Bond et al., 2011). However, as yet there has been little published research which implements the revised *AAQ-II* as a process measure. Alternatively, the lack of significant results may be because the current study included psychologically healthy participants (Flaxman & Bond, 2010). As experiential avoidance is theorised as being a way of reducing psychological distress, then the lower levels of psychological distress at baseline may indicate pre-existing lower experiential avoidance, with less scope for the intervention to reduce the scores (floor effect). Additionally, it has been proposed that multi-factor population specific versions of the AAQ may be more effective at detecting significant therapeutic changes in avoidance or 'psychological inflexibility' (Hayes, Strosahl, Wilson, Bissett, Batten, et al., 2004). For instance, this has been found in chronic pain populations (McCracken & Zhao-O'Brien, 2010). Alternatively the workshop may not have significantly altered experiential avoidance.

The study also explored the impact of the intervention on participants with clinically high levels of psychological distress at baseline. The data suggest a greater benefit of the acceptance and mindfulness-based workshop on the most psychologically distressed support staff, i.e. those who are at greater risk of burn-out (Mutkins et al., 2011). The result is consistent with previous research (Bethay et al., 2012; Bethay, 2010; Flaxman & Bond, 2010b; Noone & Hastings, 2010; Smith & Gore, 2012) and suggests that this group of staff could benefit from such mindfulness interventions.

4.2 Limitations of the study

The study had a number of limitations, some of which have been mentioned above, such as a potential lack of sensitivity of some outcome measures to longitudinal changes (Guyatt, Walter, & Norman, 1987) and the influence of floor effects (O'Connor, Cano, Thompson, & Hobart, 2004). Another limitation was the high attrition rate of 27.5% across all participants at follow-up. This might have been reduced by contacting participants directly, sending questionnaires by post, or conducting telephone or home interviews (Young, Powers, & Bell, 2006). Further limitations were that the randomisation procedure occurred before participants had consented to take part (Schulz, Altman, & Moher, 2010), there was no allocation concealment, and the allocation of staff to the two conditions was not fully adhered to by line managers. The latter factor is a particular source of potential bias, as the reason the participants changed conditions is unknown. They may have either been particularly motivated to attend the workshop, or the line manager may have been keen for them to attend or not attend.

The workshop format, provided over one day with a half day refresher, may have been another limitation. Research has found that the opportunity to practise skills learnt during training within the work environment is a more effective way to learn new knowledge and skills. This can be achieved by means of combining didactic in-service training and on the job coaching; and is a more effective way to learn new knowledge and skills, and ensure they are maintained over time (van Oorsouw, Embregts, Bosman, & Jahoda, 2009). Regular practising of mindfulness skills is particularly important to derive the benefits (Huppert & Johnson, 2010). Therefore shorter regular sessions may have been more beneficial to help participants to practise the mindfulness exercises, particularly as participant adherence was not objectively measured. Similarly, the adherence to the workshop protocol by the presenter was not measured by independent parties. Therapist experience in mindfulness is considered

to be important (Segal, Teasdale, Williams, & Gemar, 2002), and is believed to influence therapeutic outcomes. Hence, the relative inexperience of the therapist may have had a bearing on the results.

The group dynamics, and the effect that group size has on the effectiveness of the workshop is worth consideration. Group dynamics and group size may well influence the effectiveness of the workshops. The groups ranged in size from 3 to 10 participants. For instance, larger groups may make active participation in the experiential exercises and group discussions harder to facilitate effectively. It was noted in a previous study implementing a similar intervention that a potential barrier to the full participation in the workshop, and hence effectiveness, may be concerns about confidentiality, as well as participants not wanting to disclose personal information in front of colleagues (Schwetschenau, 2009).

Future research in this area could consider additional measures. This could include a measure of participants' values (Noone & Hastings, 2011) and level of mindfulness (Erisman & Roemer, 2011; Grossman, 2011), both of which are seen as key components of acceptance and commitment therapy interventions. Similarly, future studies may wish to measure potentially confounding variables such as organisational support (Mutkins et al., 2011), interpersonal relationships with work colleagues (Alexander & Hegarty, 2000), the interpersonal demands of the helping relationship with the client with ID e.g. the actual type of support required by clients (White et al., 2006), the physical environment in which staff work (Felce, 1998), and support staffs' understanding of their client's disability (McGill, Bradshaw, & Hughes, 2007). All of these factors have been linked with staff stress. The behavioural challenges presented by clients may also be useful to measure as an outcome measure (Singh et al., 2006; Singh et al., 2009) and/or confounding variable. However, there is conflicting evidence as to whether there exists a direct link between this and psychological distress (Skirrow & Hatton, 2007). Measuring support staff rates of absenteeism, sick leave

and turnover (Hatton et al., 2001) may also help clarify the potential economic impact of teaching mindfulness skills (Singh et al., 2008), whether alone or in combination with training in other approaches (Singh et al., 2006).

4.3 Implications and conclusions

This study is one of only a few which explore the use of an intervention to address support staff psychological distress in ID services, and it contributes to the evidence-base for the applicability of mindfulness based interventions to carers of individuals with ID. In comparison with previous research there was a larger sample size, with a well-matched control group and inclusion of follow-up data collection. The results demonstrate support for the effectiveness of an acceptance and mindfulness-based workshop intervention in reducing distress amongst support staff working in ID services, particularly for the most distressed. Future research may wish to examine the use of process outcome measures adapted for use with support staff in ID services, to identify the contexts in which, and for whom, acceptance and mindfulness-based workshops are most effective. Systematic research of the mediators of change will enhance understanding and may lead to more effective interventions.

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Figure 1. Overview of the design of the study, and participants at each stage.

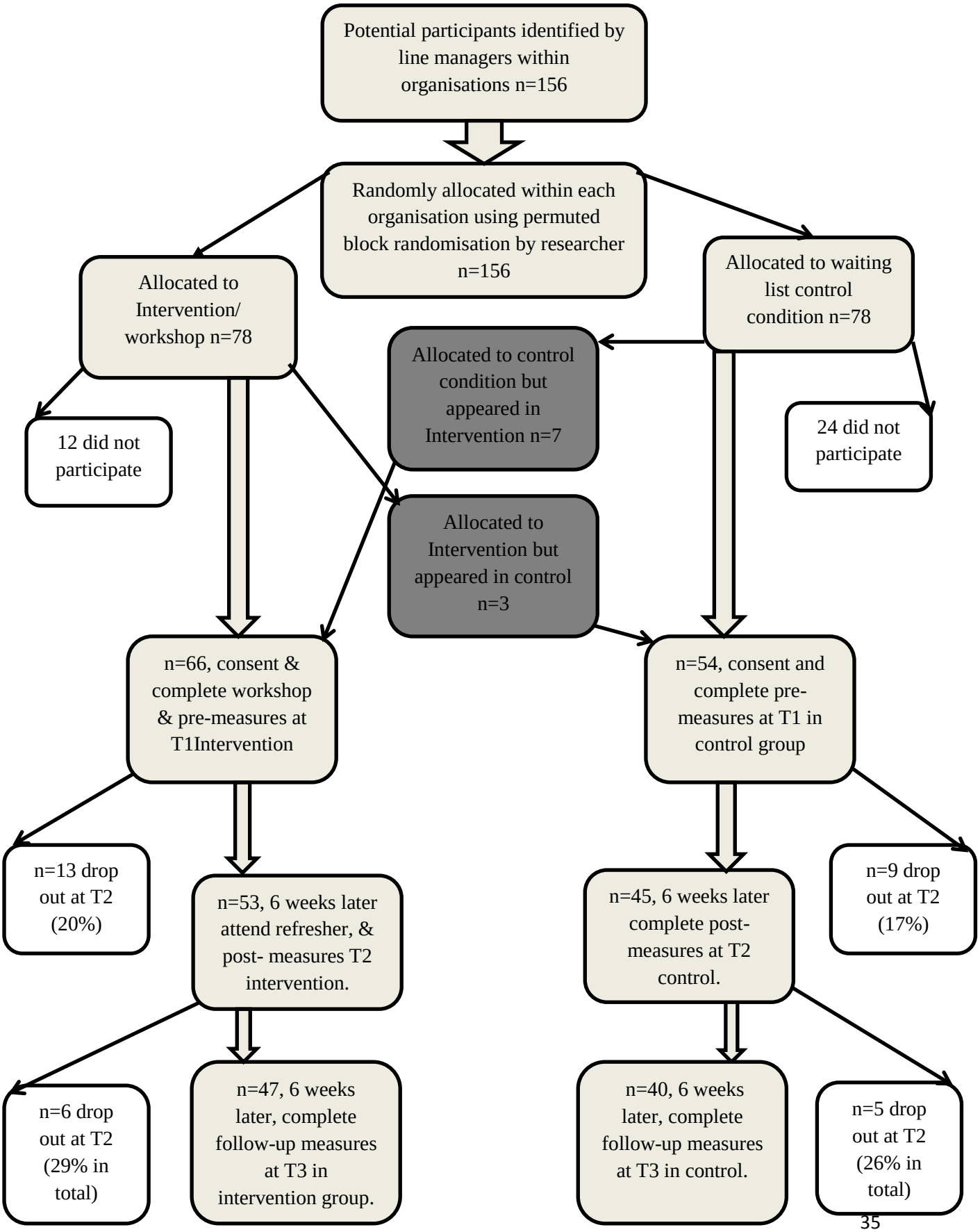

Table 1. *Participants' demographics by intervention and control group.*

	Intervention		**Control**		**Total sample**	
	Median	Range	Median	Range	Median	Range
Age (years)	43	19-69	44	22-64	43	19-69
Years of experience working in ID	6.5	0.5-25	6.4	0.9-30	6.4	0.5-30
Number of hours worked per week	37.0	9.5-45	37.5	12-45	37.5	9.5-45
	N	**%**	**N**	**%**	**N**	**%**
Male	19	28.8	12	22.2	31	25.8
Female	47	71.2	42	77.8	89	74.2
Secondary school education only	26	39.4	25	46.3	51	42.5
Higher Education college	25	37.9	21	38.9	46	38.3
University education	15	22.7	8	14.8	23	19.2
Professional qualification in ID area.	30	45.5	24	44.4	54	45
No professional qualification	36	54.5	30	55.6	66	55

Note: N=frequency

Table 2. *Outcome measure means and standard deviations across the three time points for all participants.*

	GHQ	SSQ	WEMWBS	AAQ-II	WBSI
Intervention Group (n=66)					
Time 1 (pre)	M=12.30 SD=(5.95)	M=66.5 SD=(18.62)	M=51.06 SD=(8.14)	M=19.10 SD=(7.53)	M=44.88 SD=(12.02)
Time 2 (post)	M=10.16 SD=(3.37)	M=66.13 SD=(17.71)	M=50.91 SD=(5.98)	M=18.73 SD=(6.54)	M=44.80 SD=(11.16)
Time 3 (Follow-up)	M=10.89 SD=(3.40)	M=67.34 SD=(17.88)	M=52.01 SD=(5.20)	M=19.14 SD=(6.59)	M=43.21 SD=(10.95)
Control Group (n=54)					
Time 1 (pre)	M=12.07 SD=(4.48)	M=66.37 SD=(19.32)	M=50.76 SD=(7.53)	M=18.89 SD=(7.45)	M=42.61 SD=(12.19)
Time 2 (post)	M=11.47 SD=(4.10)	M=66.34 SD=(18.88)	M=49.88 SD=(6.29)	M=18.85 SD=(7.14)	M=43.09 SD=(11.29)
Time 3 (Follow-up)	M=11.13 SD=(3.87)	M=68.21 SD=(18.35)	M=50.28 SD=(7.11)	M=19.18 SD=(6.67)	M=43.39 SD=(10.75)

Notes: M=mean SD= Standard Deviation. GHQ=General Health Questionnaire, SSQ=Staff Stressor Questionnaire, WEMWBS=Warwick & Edinburgh Mental Well Being Scale, AAQ-II=Acceptance and Action Questionnaire, WBSI=White Bear Suppression Inventory

Figure 2. *Participants with GHQ>11 at time 1 across the three time points for intervention and control group conditions.*

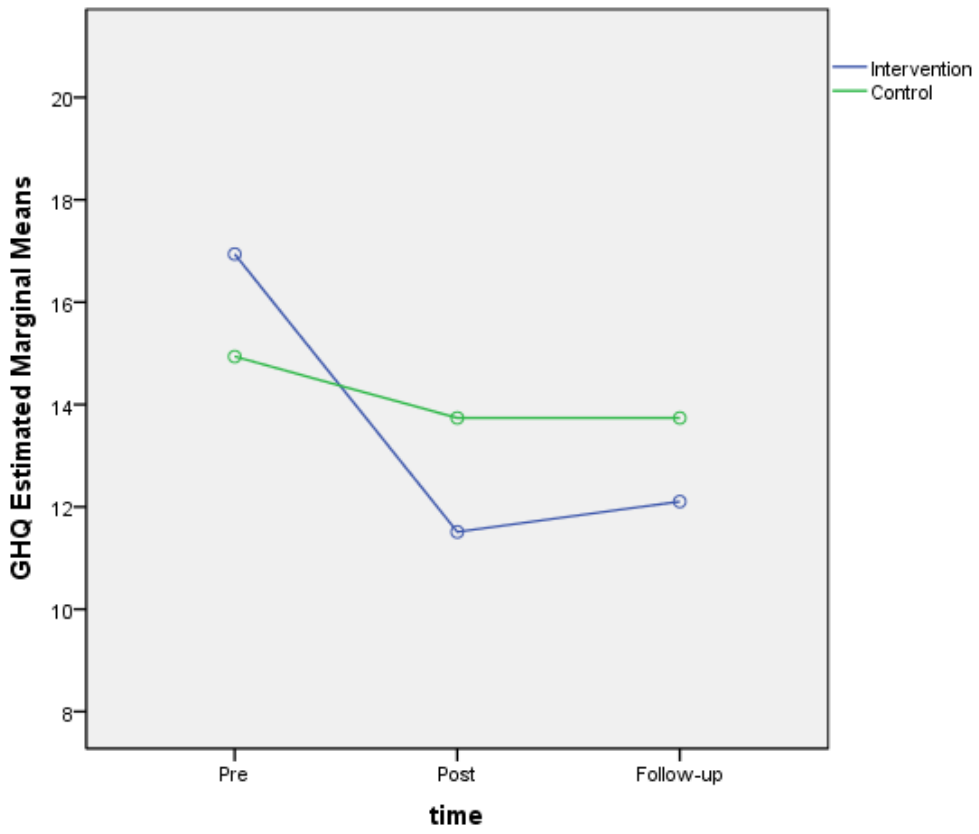

Table 3. *Main statistical and Post-Hoc analysis*.

Total sample					
Measure	**Wilks' Lambda λ**	**F**	**P value**	**η²**	**Effect size**
GHQ-12	.879	8.061	.001	.121	Medium to Large
WEMWBS	.966	2.057	.132	.034	-
WBSI	.920	5.110	.007	.080	Medium
AAQ-II	.998	.106	.900	.002	-
Clinically distressed group					
Measure	**Wilks' Lambda λ**	**F**	**P value**	**η²**	**Effect size**
GHQ-12	.662	15.805	.001	.338	Large
WEMWBS	.918	2.747	.072	.081	-
WBSI	.823	6.66	.002	.177	Large
AAQ-II	.913	2.948	.06	.087	-

Table 4. *Outcome measure means and standard deviations across the three time points for the participants with clinically high scores on the GHQ at time 1.*

	GHQ	SSQ	WEMWBS	AAQ-II	WBSI
Intervention Group (n=33)					
Time 1 (pre)	M=16.94 SD=(4.60)	M=71.64 SD=(19.86)	M=46.82 SD=(7.57)	M=22.32 SD=(6.95)	M=46.48 SD=(13.30)
Time 2 (post)	M=11.51 SD=(3.70)	M=68.74 SD=(18.34)	M=48.54 SD=(6.04)	M=19.82 SD=(6.63)	M=45.44 SD=(12.70)
Time 3 (Follow-up)	M=12.10 SD=(3.66)	M=69.32 SD=(19.08)	M=50.40 SD=(5.19)	M=20.49 SD=(6.91)	M=42.51 SD=(12.71)
Control Group (n=32)					
Time 1 (pre)	M=14.94 SD=(3.12)	M=68.00 SD=(17.66)	M=49.25 SD=(6.84)	M=21.41 SD=(6.70)	M=45.16 SD=(10.37)
Time 2 (post)	M=13.74 SD=(3.47)	M=68.01 SD=(17.66)	M=48.46 SD=(5.95)	M=21.47 SD=(6.44)	M=45.50 SD=(9.92)
Time 3 (Follow-up)	M=13.74 SD=(2.73)	M=69.68 SD=(17.82)	M=49.35 SD=(7.25)	M=21.50 SD=(6.09)	M=45.68 SD=(9.01)

Notes: M=mean SD= Standard Deviation. GHQ=General Health Questionnaire, SSQ=Staff Stressor Questionnaire, WEMWBS=Warwick & Edinburgh Mental Well Being Scale, AAQ-II=Acceptance and Action Questionnaire, WBSI=White Bear Suppression Inventory