

A thesis submitted in partial fulfilment of the regulation for the degree of Clinical
Psychology Doctorate at the University of Birmingham.

VOLUME 1

RESEARCH COMPONENT

STRESS AND WELL-BEING IN HEALTHCARE PROFESSIONALS:

A LITERATURE REVIEW AND EMPIRICAL PAPER

BY

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OVERVIEW

This thesis is submitted in partial fulfilment of the requirements for the degree of Clinical Psychology Doctorate at the University of Birmingham. It is comprised of two volumes and includes a research study and reports of clinical work completed on clinical placements.

Volume I contains a literature review, research paper and a public domain paper. The literature review examines literature on stress management interventions for professionals working in mental health and health care settings. The empirical paper investigates the relationship of self-efficacy and hardiness in trainee clinical psychologists and determines whether either concept mediates the relationship between stressors and well-being. It is intended that both pieces of work will be submitted to the British Journal of Clinical Psychology (see Appendix 2.9 for the instructions for authors). Finally, the public domain briefing paper details the empirical paper.

Volume II includes five Clinical Practice Reports (CPR). CPR 1 is a case formulation about a 56 year old gentleman with symptoms of anxiety and depression. CPR 2 is a service evaluation regarding staff perspectives on referring clients with psychosis for psychological therapies. CPR 3 documents a single-case experimental design that assessed the effectiveness of an anxiety intervention with a fifteen year old boy with Chrones's disease. CPR 4 reports a case study of a nineteen year old gentleman with a severe learning disability. An abstract outlining CPR 5, a clinical presentation about a fourteen year old girl with anorexia nervosa and depression, is also included. In order to ensure anonymity, names and identifying information have been omitted.

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LITERATURE REVIEW

Systematic review of stress management interventions for Healthcare Professionals

ABSTRACT

Objectives

The review synthesised the current literature on stress management interventions for healthcare professionals and provides an up-to-date examination of studies that report on stress management interventions for individuals working in mental health settings and general healthcare settings. Staff stress and burnout is an important area as this can affect staff well-being and their interactions with clients.

Methods

The databases searched included; EMBASE, Ovid MEDLINE, Cochrane Library and Psych INFO. The search dated from 1983 to 2011. Keywords used to conduct the search were: Mental health professionals* OR healthcare professionals* AND stress OR burnout management/interventions/stress reduction/wellbeing. In order to reflect a relative weighting for research quality, each of the studies were rated according to the criteria set by Sale and Brazil (2004).

Results

The search yielded 15 articles relevant to the review. Five types of intervention were identified and papers were grouped accordingly, these included: Mindfulness, Cognitive-behavioural, Organisational, Relaxation and Multimodal interventions.

Conclusions

The literature shows evidence for stress management interventions being effective in reducing symptoms of stress and burnout in healthcare professionals. Mindfulness and

multimodal interventions produced the strongest evidence. However, further research is required to make more conclusive statements, about which type of intervention is most effective at keeping symptoms at bay in the long term.

Keywords: Healthcare professional, stress, burnout, intervention

INTRODUCTION

Stress

Stress results from a complex relationship between a person, situation and their environment. Lazarus (1966) developed a theory and approach to consider “psychological stress.” His current theory defines stress as a relational concept. He suggests that stress is not a specific kind of external stimulation or a specific pattern of physiological, behavioural or subjective reactions. It is viewed as a relationship (“transaction”) between individuals and their environment.

“Psychological stress refers to a relationship with the environment that the person appraises as significant for his or her wellbeing and in which the demands exceed available coping resources” (Lazarus & Folkman, 1986, pg.63).

This definition points to two processes as essential mediators within the person-environment transaction: cognitive appraisal and coping. Researchers indicate that individuals focus upon the coping element of stress rather than cognitively appraising the situation, which is key to dealing with stress (Brooks, Holtum & Lavender, 2002). Very few stress management interventions include explicit teaching on cognitive appraisal; they include teaching on generic coping skills (Gardner, Rose, Mason, Tyley & Cushway, 2005).

Occupational stress

The impact of stress in the workplace is demonstrated in many different ways, as individuals have their own stress response to situations. Initial symptoms of stress can include: headaches, sleep difficulties, forgetfulness and an increase or lack of appetite

(Ogden, 1996). Suggested examples of the way stress is displayed in organisational settings are: absenteeism, staff turnover, low morale and under performance. If stress remains untreated it can lead to anxiety, depression, burnout or psychosomatic diseases and a resultant deterioration in quality of life and service provision (Weinberg & Creed, 2000; Michie & Williams, 2003).

Healthcare professionals appear to suffer from more stress and experience different stressors than other occupational groups (Cushway & Tyler, 1994). A major contributing factor could be that The National Health Service (NHS) has seen many organisational changes over the past decade, which have impacted on the job roles of nearly all healthcare professionals (Department of Health, 2007). Overworking is increasing in both hospital and community services (Department of Health, 2007). The two largest contributing factors causing stress have been reported to be the amount of work required by professionals in limited time frames and working over-time due to shorter hospital stays for patients, leading to faster throughput (Department of Health, 2000). Figures from the Department of Health (2007) indicate that over the past ten years, NHS activity has increased but this improved efficiency has led to major pressures on staff.

The total number of cases of stress recorded in 2010-2011 was 400,000 out of a total of 1, 152,000 for all work related illness. These figures were indicative of all working environments, highlighting the problem of work related stress in various professional groups. Occupations which reported the highest rates of work related stress, in the last three years were those in healthcare, education and public administration (Health and Safety Executive, 2011). The Boorman Interim Report (2010) highlighted that levels of sick days lost the NHS

10.3 million working days a year. The main causes of sickness were due to musculoskeletal disorders (45%) and more than a quarter were due to stress, depression and anxiety (30%) which emphasised the importance of tackling this problem (Health and Safety Executive, 2011).

Studies have shown that the level of stress and dysfunction among UK clinical psychologists is high (Cushway, 1992; Sampson, 1991). Similarly, British psychiatrists and general practitioners (GPs) have been found to have a negative perception of themselves and view their roles as diminished within the system with high levels of psychological disturbance (Deahl & Turner, 1997). Levels of distress were reported to range from anxiety and depression to burnout, and in some cases provoked suicide (Baldwin, Dodd & Wrate, 1997). The causes of stress and stressors appear to be similar for all medical groups (doctors, nurses, clinical psychologists, occupational therapists and mental health social workers) e.g. working in long-term healthcare services, a stressful work environment, role conflict, unequal positions and limited staffing resources were all highlighted. An increase in administration work, contact with suffering and dying patients, verbal and physical abuse by patients, the need to hide negative emotional response, conflict between professionals, and organisational change are also considered to be factors that cause stress (Firth-Cozens, Payne, 1999; Vicar, 2003).

In recent years, New Ways of Working (2007) has been introduced in the NHS to alleviate pressures and stresses upon psychiatrists and other mental health professionals to enable person-centred care to be delivered across the lifespan. Traditionally, in mental health teams psychiatrists have had the responsibility of managing whole teams and caseloads.

Initiatives such as New Ways of Working promote multidisciplinary team leadership, distributing responsibility and professionals taking cases based on competence and specialist skills rather than just having cases allocated to them. Additionally, mental health teams are being encouraged to develop care co-ordinator roles in teams to share clinical responsibility of overall care packages (New Ways of Working, 2007). Long term implications of such policies is for a whole team approach, with patients receiving the best possible care and staff teams feeling less stressed and feeling more satisfied in their job roles. In future years, it will be of interest to assess and monitor the outcomes of such initiatives and whether they are having a positive impact on staff and stress levels in healthcare.

Burnout

Occupational burnout is an important phenomenon that stems from chronic emotional responses to stress and interpersonal stressors that occur at work (Maslach & Jackson, 1981; Maslach, Schaufeli & Leiter, 2001) often causing negative self-esteem, feelings of helplessness, hopelessness, irritability and despair (Hsu, Chen, Yu & Lou, 2010).

The burnout syndrome is a set of symptoms leading to a debilitating psychological condition which is commonly associated with chronic stress. It is a syndrome compromising emotional exhaustion, depersonalisation and reduced personal accomplishment (Maslach & Jackson, 1981; Routaslainen, Serra, Marine & Verbeek, 2008) and represents the outcome of a prolonged process of attempting to cope with demanding stressors. Occupational burnout not only leads to negative effects on individuals' psychological and physical health and performance, but also to high turnover intention, which in turn leads to reduced individual aspirations to provide good health care to patients (Hsu, Chen, Yu & Lou, 2010).

It has been reported that nurses have the highest levels of burnout compared to any other medical group (Rees & Cooper, 1992; Galbraith & Brown, 2011). The levels of stress and burnout were significantly higher in nurses than in equivalent professional groups in the general population (Galbraith & Brown, 2011). Emotional exhaustion, which predicts sickness absence, doubled in community nurses between 1995 and 2005 (Royal College of Nursing, 2007). Edwards, Burnard, Owen, Hannigan, Fothergill and Coyle, (2003) reported that one out of every two mental health social workers experienced emotional exhaustion and symptoms of burnout.

Various organisational groups have attempted to tackle the issue of stress and burnout in their workforces. Statistics provided from the Health and Safety Executive (2011) state that organisations such as British Telecom and Royal Mail, having invested strategically in health and well-being services, achieved reductions of 30% to 40% in absenteeism rates over a 5-year period. Similar reductions would deliver significant benefits to the NHS. The NHS Health and Well-being Report (2009) stressed the importance of embedding staff health as a priority in services and highlighted that preventative, supportive and rehabilitative factors should be considered as a model for interventions. Preventative interventions refer to stress management interventions; such interventions help those employees who are not necessarily at risk of common mental health problems, cope with stress and improve their ability to identify potentially stressful situations early on. Such interventions prevent the building up of stress and further mental health problems (anxiety and mild depression). However, no data is available to enable assessment of the effectiveness and successful implementation of this model.

Previous reviews & Aims of the current literature review

Several reviews have been carried out in this area (Ruotasalainen, Serra, Marine & Verbeek, 2008; Edwards & Burnard, 2003; Edwards et al., 2003; Edwards, Hannigan, Forthergill & Burnard, 2002; Murphy, 1996; Galbraith & Brown, 2011). Past reviews have looked at many different perspectives, focusing on: identifying sources of stress and moderators of stress. They have focused on specific healthcare professionals (i.e. nurses only) which the current review will not. Only one review focused specifically on all health care professionals (Ruotasalainen, et al., 2008) but did not reach clear conclusions about the evidence due to lack of papers outlining specific interventions (i.e. behavioural approaches).

Previous reviews have not been able to identify which stress management intervention programmes are most effective and have not compared different modes of intervention (Gardner, Rose, Mason, Tyley & Cushway, 2005). This review will synthesise the current literature and provide an up-to-date examination of studies that report on stress management interventions for individuals working in mental health settings and general healthcare settings.

Aims include:

- To Identify which interventions are effective in reducing stress in professionals (highlighting the methodological weaknesses within the papers)
- To Identify a positive direction for future research on stress management interventions

METHOD

Search methods

Studies that report on the use of stress management interventions in any healthcare population, inclusive of mental health professionals were sought.

Computerised searches of key databases of Web of Science were used to conduct the literature search, which was limited to articles published from 1983 to 2011; EMBASE, MEDLINE, Cochrane Library and Psych INFO. Keywords used to conduct the search were: Mental health professionals* OR healthcare professionals* AND stress OR burnout management/interventions/stress reduction/well-being.

Papers were cross-referenced with previous reviews and studies that previous reviews had referenced and were not returned via the electronic database, were sourced.

The final inclusion criteria for papers in this review were: empirical studies that used a standardised measure of stress and/or burnout with pre and post measures, studies which were published in a peer review journal, an actual intervention described and implemented and a sample consisting of clinical staff only. Severity of stress or burnout was not defined for the purpose of inclusion. Studies were excluded if non-specific clinical skills lectures were given as the intervention and if the intervention consisted of recruiting additional members of staff during extra busy periods. Studies published during and since 1983 were included.

Search outcomes

After duplicates were removed, the search identified 72 references; the number of papers obtained from previous reviews was 11, therefore providing 83 papers in total. Abstracts of each were read to determine eligibility. A number of papers were excluded; 6 papers were excluded as they were review papers, 40 were excluded as studies focused predominantly on investigating stressors and not offering a theoretical intervention and 8 focused on client's perspectives on how stress could be reduced in hospital settings. Twenty-nine studies describing interventions were separated for further reading. Of these, five were excluded as the sample included administration or hospital maintenance staff. One paper was excluded as the intervention consisted of more staff being added to wards during busy periods and not discussing a theoretical intervention. A further four papers were excluded as the intervention was related to clinical skills with clients rather than a theoretical stress management intervention. Finally, three studies were excluded due to them being published in a non-peer reviewed journal. This left fifteen studies meeting the criteria described above. Three of these studies were included in previous reviews by Edwards & Burnard (2003) and Edwards, Hannigan, Forthergill & Burnard (2002). The reference sections of all articles were checked for possible further unidentified studies, although none were found.

From the 15 selected studies, the following data was extracted and inserted into table 1: Author, year of publication, country, study population, intervention and outcome measures were all reported.

Table 1: Summary of studies included in the review

Study	Country	Study population	Intervention	Outcomes	Quality rating
Mackenzie, Poulin & Seidman-Carlson (2006)	Canada	Nurses working in Mental health setting	Mindfulness	The Maslach Burnout Inventory Smith Relaxation Dispositions Inventory Intrinsic Job Satisfaction subscale Orientation of Life Questionnaire	Excellent
Cohen-Katz, Wiley, Capuano, Baker & Shapiro (2005)	America	Nurses working in healthcare setting	Mindfulness	The Maslach Burnout Inventory Brief symptom inventory Mindfulness Attention Awareness Scale Qualitative paper: Weekly evaluation forms E-mails Final evaluation forms Focus group	Excellent
Shapiro, Astin, Bishop & Cordova (2005)	America	Health care professionals in general hospital setting	Mindfulness	Brief Symptom Inventory Total Mood Disturbance Scale The Maslach Burnout Inventory Perceived Stress Scale Satisfaction with life scale The Self-Compassion scale	Good
Dierendonck, Buunk & Schaufeli (1998)	Netherlands	Healthcare professionals in community learning disability service	Cognitive-behavioural & Organisational	The Maslach Burnout Inventory Perceived social support	Good

Hill, Atnas, Ryan, Ashby & Winnington & Oscar group (2010)	United Kingdom	Healthcare professionals on alcohol in-patient ward	Organisational	The Maslach Burnout Inventory	Good
Ryan, Hill, Anczewska, Hardy, Kurek, Nielson, Turner & Oscar group (2005)	Europe	Mental health professionals working in the community and in in-patient setting	Organisation	The Maslach Burnout Inventory Mental Health Professional Stress	Good
Innstrand, Espnes & Mykletun (2004)	Norway	Healthcare professionals in community learning disability service	Organisational	The Maslach Burnout Inventory Job Satisfaction Scale	Good
Le Blanc, Hox & Taris (2007)	Netherlands	Health Care professionals in oncology setting	Multimodal	The Maslach Burnout Inventory Social support Decision making Work person and wellbeing Emotional job demands	Excellent
Mehr, Senteney & Creadie (1995)	America	Female mental health professionals working in community setting	Multimodal	The Maslach Burnout Inventory Imaginal Process Inventory Schedule of Recent Experience	Good
Kunkler & Whittick (1991)	Scotland	Nurses working in psychiatric setting	Multimodal	General Health Questionnaire Burnout Checklist	Poor
Ossebard (2000)	Denmark	Healthcare professionals	Relaxation	The Maslach Burnout Inventory	

		in a addiction centre		Speilberg State Trait Anxiety Inventory	
Kravits, McAllister-Black, Grant, Kirk (2010)	America	Healthcare professionals in a cancer centre	Multimodal	The Maslach Burnout Inventory Rain art assessments drawings	Reasonable
Hunnicutt & MacMillan (1983)	America	Healthcare professionals in community mental health team	Cognitive - behavioural	The Maslach Burnout Inventory Work and Coping inventory	Good
Bragard, Etienne, Merckaert, Libert & Razavi (2010)	France	Doctors working in Oncology	Multimodal	The Maslach Burnout Inventory Self-efficacy beliefs Analogue Stress Scale	Excellent

Five types of intervention were identified and papers were grouped accordingly, these included: Mindfulness, Cognitive-behavioural, Organisational, Relaxation and Multimodal interventions. Mindfulness interventions included programs offered which included solely mindfulness principles and skills of non-judgemental or resistant thinking, focusing upon the present. Cognitive-behavioural interventions included cognitive re-structuring, behavioural approaches and reinforcing coping skills. Organisational interventions included working with managers and supervisors along with clinical staff, focusing upon organisational change as a whole. Relaxation interventions focused upon muscle relaxation, relaxation via a synchro-energiser and relaxation practical principles. Multimodal interventions included interventions that did not have one direct intervention but offered a combination of skills.

Studies selected were subject to quality criteria; a mixed-method paper was selected (Sale & Brazil, 2004). There are very few methodological evaluations which use mixed-method criteria to critically appraise studies in the healthcare literature, therefore the criteria by Sale and Brazil (2004) were deemed most appropriate. The quality criteria are based on Lincoln and Guba's (1985, 1986) work. The table below presents the quantitative methodological criteria. Refer to appendix 1.1 for the qualitative criteria (only one paper was reviewed with qualitative criteria).

Table 2: Sale & Brazil (2004) Quantitative methodological criteria

Quality table
Quantitative quality criteria
Truth Value
Extraneous or confounding variables identified
Extraneous or confounding variable(s) or baseline differences controlled for in the analysis
Statement about comparability of control group at baseline
Informed consent stated
Ethical review undertaken
Statement that confidentiality protected
Applicability
Statement of purpose
Objective of study explicitly stated or described

Description of intervention if appropriate
Outcome measure(s) defined
Assessment of outcome blinded
Description of setting or conditions under which data collected
Design stated explicitly i.e. case study, cross-sectional study, cohort study, RCT
Subject recruitment or sampling selection described
Sample randomly selected
Inclusion and exclusion criteria for subject selection stated explicitly
Study population defined or described
Source of subjects stated i.e. sampling frame identified
Selection of controls described
Control or comparison group
Statement about non respondents
Missing data addressed
Power calculation to assess adequacy of sample size or sample size calculated for adequate power
Statistical procedures referenced or described
<i>p</i> values stated
Confidence intervals given for main results

Data gathering procedures described
Data collection instruments or source of data described
At least one hypothesis stated
Both statistical and clinical significance acknowledged
Total Score

In order to reflect a relative weighting for research quality, each of the studies were rated according to these criteria set by Sale and Brazil (2004). Studies were given a score of one point if each criterion was met and a rating of zero if the criterion had not been met (Refer to appendix 1.2 for examples of scoring). In some cases, all the criteria were not appropriate e.g. if a paper was a non-randomised control design, a point for random allocation could not be given. In this case, scores of zero were allocated. It was possible to achieve a maximum score of 30 points. For each paper, a total maximum score was calculated which adjusted the possible maximum score accordingly. The studies were rated as excellent quality (+++), good quality (++), reasonable quality (+) and poor quality (-) (NICE guidelines manual, 2007). These scores were used as a general guide to evaluate the studies, bearing in mind that some quality criteria may hold greater weighting in terms of indicating methodological flaws than others.

Sale and Brazil (2004) do not assess the quality of outcome measures used in studies in their quality criteria. However, inclusion criteria were set to determine eligibility of papers which were that standardised measures of stress and/or burnout needed to have been used in studies. Therefore even though ratings were not directly included for this,

consideration was given and reflection was made on the types and standards of measures used in the discussion section of this paper.

RESULTS

The fifteen papers which were identified for this review all presented interventions that aimed to reduce stress and burnout in healthcare professionals. The papers comprised of: six randomised control trials, two non-randomised control trials and six papers that had a single trial design with no control or comparison group. Randomised control trials are referred to as the “gold standard” of research design as they provide stronger evidence due to there being a control group and random allocation of participants (Verhoef, Casebeer & Hilsden, 2004). All studies used a standardised measure of stress and/or burnout.

Mindfulness based interventions

Mindfulness has been defined as:

“Paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment...” (Kabat-Zinn, 2003, Pg. 7).

The Mindfulness based stress reduction intervention (MF) is designed to teach individuals to become more aware of and relate differently to thoughts, feelings and body sensations. MF practice allows for greater awareness of the “here and now” as individuals let go of ruminations about the past and uncertainties regarding the future. Individuals learn to see their habitual reactions to stress and develop healthier, more adaptive ways of responding to it (Shapiro et al., 2005). A great body of research has demonstrated that MF interventions can effectively reduce stress, anxiety and depression in both clinical and non-clinical populations (Miller, Fletcher & Kabat-Zinn, 1995). A recent interest has developed in using MF with healthcare professionals to aid in the reduction of stress and burnout.

Three studies were identified as using MF as a stress management intervention for healthcare professionals; these were considered (all of which were) robust randomised control trials. Two papers were of excellent quality ++, these were; Mackenzie et al., (2006) and Cohen-Katz et al., (2005); they both involved nurses and nurse aides. The third paper was of good + quality (Shapiro et al., 2005) and involved healthcare professionals in general.

Mackenzie et al., (2006) scored highest on the methodological quality criteria. The replicable intervention of MF was a great strength of the paper; this was not followed in the other two papers. The interventions for all studies were based on the work of Kabat-Zinn (1990) on MF. All studies varied in the delivery and length of intervention from professionals receiving six one-hour sessions of MF to eight two and a half hour sessions. All studies found statistically significant reductions in stress and burnout symptoms between pre and post scores for intervention groups in comparison to control groups.

Mackenzie et al., (2006) accounted for variables which may have affected professionals attending groups at certain times due to other commitments and made the same session accessible at six different times in the week. The number of sessions offered per week added to the effectiveness and the accessibility of the intervention offered. Other studies did not account for additional sessions if individuals could not attend at a certain time due to work commitments. Shapiro et al., (2005) had a forty percent dropout rate of professionals during the course of the intervention. The authors also failed to address the missing data, therefore reducing the credibility of their findings.

The main caveats for all three papers were the modest sample size ranging from 11 to 16 participants in experimental groups and the failure to report power calculations. Both Mackenzie et al., (2006) and Shapiro et al., (2005) identified that their findings should be considered as preliminary, it could be argued the same should be considered for the study by Cohen-Katz et al., (2005). However, Cohen-Katz et al., (2005) collected data 3 months post treatment and found the reduction in symptoms had remained. Six month follow-up measures for all studies would have allowed for the authors to consolidate their findings further.

Cohen-Katz et al., (2005) published two papers from his original study, one considering qualitative findings and one reporting quantitative findings. The qualitative findings added support to the quantitative findings for the MF interventions. Unfortunately however, the authors failed to use systematic methods to analyse the qualitative data and they did not identify how they combined all of the data that was collected through a variety of means (weekly evaluation forms, focus group and final evaluation forms). A strength of the additional qualitative information was that it highlighted that the MF intervention was helpful in reducing stress in the workplace and also at home. Many ideas were generated from participants on how MF interventions could be maintained in hospital environments.

In summary, all papers provided strong and robust evidence for using MF interventions to reduce stress in healthcare professionals, although a few methodological considerations needed to be taken into account. Larger sample sizes would need to be considered to confirm the impact of MF as an intervention and provide more external validity. Longitudinal data collection should also be considered. Collecting qualitative data

was a positive for Cohen-Katz et al.'s (2005) study; however more focus upon methodological rigour would have added to the quality of the evidence base.

Cognitive behavioural interventions

Cognitive behavioural (CB) interventions are designed to target unhelpful and/or irrational beliefs, attitudes or thoughts and are designed to target disabling, unproductive or maladaptive behaviours. Techniques such as cognitive re-structuring, problem solving, activity scheduling and relaxation are used (Dierendonck et al., 1998).

Two studies were identified using CB for stress management interventions. Dierendonck et al., (1998) included healthcare professionals working in a learning disability setting and Hunnicutt and MacMillan (1983) included healthcare professionals from community mental health teams. Both studies were non-randomised control trials. Dierendonck et al.'s (1998) study was of good ++ quality and Hunnicutt and MacMillan's (1983) paper was of reasonable + quality. Neither study randomly allocated individuals to any of their groups. The deficiency in randomization made it harder to rule out confounding variables and introduced threats to internal validity.

Dierendonck et al., (1998) found statistical support for their five week CB intervention. The experimental groups showed a decline in burnout symptoms (specifically emotional exhaustion) which were maintained at one year, whereas the control group reported an increase in symptoms. The authors had a unique element of including behavioural criteria to assess the effectiveness of their CB intervention (registered absenteeism). Results however, should be considered with caution due to the selection

effect, which occurred from the overrepresentation of low-levels of absenteeism in individuals in the experimental group pre intervention. Hunnicutt & MacMillan's (1983) longitudinal study carried out over three years had two experimental groups; a workshop only group and a workshop group supported by supervision sessions for participants; mixed findings were reported. The workshop only group had no significant reduction in burnout symptoms by the end of the three-year period. However, the group supported with additional supervision showed a significant decrease in burnout symptoms especially exhaustion. Although this study is weak in its methodology, it has offered a suggestion of future CB interventions being more successful with the support of supervision sessions.

A limitation of Hunnicutt & MacMillan's (1983) study was that only pre and post measures were collected; mid-point measures at various time frames would have allowed the authors to offer a more detailed appraisal of the intervention. The authors failed to provide any explanation as to why the workshop only group showed no change.

Dierendonck et al., (1998) added strength to their study by collecting data at six months and one-year time intervals. Disappointingly, Dierendonck et al., (1998) had a fifty one percent dropout rate during the intervention; however they conducted multivariate analysis to establish whether the individuals who dropped out differed significantly to those who continued. This added to the paper's methodological rigour. Conversely, drop-out rates, additional support received, turnover and other confounding variables, which could have occurred over the three year time frame, were not discussed by Hunnicutt & MacMillan (1983). This paper offered limited support as several methodological criteria were not met

and the study would not stand up to rigorous statistical scrutiny due to confounding variables not being controlled for.

The evidence base for CB interventions could be argued to be weak, especially with there being only two papers in the area. Although the evidence is weak and limited, both studies showed some potential support for CB interventions reducing symptoms of stress and burnout. A good ++ quality paper was found to give the most substantial evidence of the two, but more research would add to the evidence base for CB stress management interventions.

Organisational interventions

Research has shown that in organisational contexts, individuals experiencing feelings of injustice can have important motivational effects which consequently may lead to resentment, absenteeism and high turnover in the workplace (Cropanzano & Greenberg, 1997). Of late, perceived organisational unfairness has also been linked to professional burnout. Organisational interventions (OI) are less direct interventions for clinical staff on the front line, but are more associated with working with “the powers above” (managers, supervisors and human resources) to encourage changes within the work environment and impact on the whole team culture (Dierendonck et al., 1998). Four papers were identified that offered OI to reduce symptoms of stress and burnout.

Ryan et al., (2005) contributed to the main body of evidence in this area by conducting a large-scale study within seven European countries with healthcare professionals in mental health teams. The authors developed the OSCAR Project (Occupational Stress

with Mental Health Clients in Acute Response, 2001-2004) after receiving European funding to develop a stress reduction intervention, which was underpinned by organisational factors and a whole team-based approach and focused on building support and managing stress at team and individual levels (Jackson, 1983; Landsbergis & Vivona-Vaughan, 1997). Ryan et al., (2005) were the first people to use the OSCAR project intervention as a stress management intervention. Hill et al., (2010) later offered support for the OSCAR project by using the intervention with healthcare professionals on an alcohol in-patient ward. Neither study used control groups which reduced the validity of findings. However, Ryan et al., (2005) did randomly allocate individuals to intervention groups within the different countries which reduces bias between groups. The interventions groups consisted of focusing upon the signs and symptoms of burnout and developing coping resources. Ryan et al.'s (2005) study was a longitudinal study and the intervention consisted of workshops over a six month period with outcome measures collected pre, mid and twelve months post intervention. Hill et al., (2010) offered a different implementation of the OSCAR project intervention by offering a two day training event covering core areas regarding symptoms and coping recommended by the project, a pre and post design was also adopted.

Treatment effects were not established by Ryan et al., (2005) as symptoms of burnout varied throughout the intervention, in fact, emotional exhaustion increased during the course of the study at both six and twelve months, reaching a statistical significance. Stress scores also rose at six months and remained above baseline at twelve months. Follow-up measures at twelve months were a strength of this study and allowed for further conclusions to be made, suggesting that the OI of a team-based approach had no significant effect upon stress

and burnout. Findings by Hill et al., (2010) were not that dissimilar to those of Ryan et al., (2005) although a decrease was reported for symptoms of emotional exhaustion and depersonalisation, they were non significant. Feelings of personal accomplishment rose gradually and were statistically significant and this was maintained at one-month follow up. Follow up measures by Hill et al., (2010) at one year would have been desirable, and would have allowed for further comparison to Ryan et al.'s findings (2005).

Data from Hill et al., (2010) indicated that the levels of staff stress and burn-out were marginally higher in their study than in Ryan et al.'s (2005) study suggesting that the OSCAR project could be a considered OI for individuals with highly elevated stress levels. A further merit of Hill et al.'s (2005) study was that individuals who had previously received professional support for stress were not included in the final sample of participants. This added to the external validity and robustness of the study by suggesting that levels of change in stress and burnout were associated with the OI and not other factors. A drawback identified by Ryan et al., (2005) was the lack of support from senior managers to implement change; this may have been considered to be a confound for other members of the teams involved; making them feel uncomfortable and vulnerable speaking about areas of work they found difficult. This needed to be considered further by the authors in relation to the OSCAR Project and their whole-team approach along with training fidelity. Most of the methodological criteria were met for these two studies which were rated as good ++ quality.

Support for the effectiveness of OI comes from Innstrand et al., (2004) and Dierendonck et al., (1998) who both focused on healthcare professionals in a learning disability setting. Both papers offered an intervention on two levels; at an individual level

and an organisational level, which was an advantage of both studies. Both were non-randomised control trials. Papers were of good ++ quality and offered promising findings for the evidence base. Innstrand et al.'s main focus was upon OI and offered seminars at the individual level on stress management techniques over 4 sessions. At an organisational level, three sessions were offered to project managers considering organisational issues. Both OI were well documented, allowing for replicability. However this was not the case in Dierendonck et al.'s (1998) study as they failed to give a detailed account of what they offered as their OI.

Innstrand et al., (2004) reported that the individual intervention showed the experimental group to have a significant reduction in stress and exhaustion symptoms and a strong rise in job satisfaction. Project managers also had a reduction in symptoms and felt that the strong rise in job satisfaction in staff members was related to change in their managerial approach with staff. However, no qualitative or qualitative methods were used specifically to measure the change noticed by employees; a change of mood was observed by managers. Having no systematic methods to report this is a downfall of the paper, which would have been an interesting follow up finding. Dierendonck et al., (1998) alongside their primarily CB intervention for clinical staff, also offered management staff three group meetings that were led by a clinical psychologist. Previous discussions on methodological criteria suggested that this paper offers sound recommendations for a combination intervention of CB and OI. Partial support was found for the effectiveness of the OI; results suggest that perception of organisational unfairness increased continuously in the experimental group, however turnover intention remained stable throughout and authors

failed to discuss this further or give a clear description of how this was measured which made the latter finding more inconclusive. Innstrand et al., (2004) offered the experimental group incentives to attend seminars (holiday abroad), which posed a question regarding the motivation to attend.

In summary, all four papers, except Hill et al.'s (2005) paper, had modest sample sizes from 112 to 420 participants; this increased their generalisability. The studies demonstrated some partial effectiveness for an organisational-based intervention via a reduction of stress and burnout symptomology. Thus, results remain inconclusive for OI; far fewer interventions have focused on organisational rather than individual change. More studies would be needed to contribute to the current literature and to make broader statements especially in relation to two level interventions and the OSCAR project intervention. The studies reviewed should be considered as innovative and as introductory within this area.

Multimodal interventions

Multimodal approaches combine a variety of methods that can include education, physical exercise, role-play and the acquisition of skills such as improved communication skills and muscle relaxation techniques. Five studies were identified that used multimodal interventions (MI) as a stress management intervention for healthcare professionals. Two were of excellent +++ quality both involved healthcare professionals working in oncology, one was a randomised control trial (Bragard et al., 2010) and the second used a non-randomised control trial design (Le Blanc et al., 2007). A third paper; Mehr et al., (1995) was of good ++ quality and involved females from community mental health teams. The fourth; by Kravits, et al., (2010) was of reasonable ++ quality and the fifth; by Kunkler &

Whittick (1991) was of poor – quality. Both of the latter studies involved nurses. All three latter studies used experimental groups without any control or comparison groups, making it difficult to attribute the results solely to the intervention.

Bragard et al., (2010), Le Blanc et al., (2007), Mehr et al., (1995) and Kravits et al., (2010) all demonstrated the effectiveness of using MI via reductions in symptomology and a reported increase in job satisfaction. All MI papers presented interventions, which shared similarities in content, with all having a psycho-educational element, focusing upon stressors and how to identify them. After this, they all differed in content of the intervention. Le Blanc et al., (2007) reported that individuals in the experimental group felt significantly exhausted in comparison to the control group. Le Blanc et al., (2007) gave the most detailed account of their intervention which included six sessions over a period of six months (problem solving, communication styles at work, demonstrated how to re-formulate plans to cope with the major stressors were areas covered). Longitudinal data was also collected adding to the validity of Le Blanc et al.'s, Kravits et al.'s and Bragard et al.'s findings which the other studies failed to do. Due to the large sample (n=664) size in Le Blanc et al.'s (2007) study, self-report measures could be considered in future. Measures of burnout (The Maslach Burnout Inventory, Maslach & Jackson, 1986) and social support (Social Support Inventory, Peeters, Buunk & Schaufeli, 1995) were used but self-report would have highlighted individual differences and identified stressors which are not related to job-conditions (Spector, 1992; Burke, Brief & George, 1993). Bragard et al., (2010) consisted of a longer intervention, thirty hours of communication skills training and ten hours of stress

management skills. Braggard et al., (2010) additionally found an increase in self-efficacy in the intervention group.

Mehr et al., (1995) offered a unique 3 day emotions themed conference, with a follow-up conference after 3 months which focused upon developing a combination of skills training in positive imagery, diet, exercise and relaxation. One of the aims the authors identified was to have a positive impact on people's daydreams, including thoughts of getting promotions and feeling more positive about work. However, the authors only commented on the types of daydream one has in relation to job satisfaction (fear of failure, problem solving and achievement-oriented daydreams) and did not report on how daydreams were associated with stress or burnout levels nor did they discuss this in their findings. They did however demonstrate effectiveness for their short-term intervention, with burnout symptoms demonstrating significantly lower scores at post-test compared to pre-test scores. Kravits et al., (2010) offered six one-hour sessions twice monthly for six months. The content of the interventions was different to other studies having a great focus on art and poetry followed by guided deep breathing. All however, had positive outcomes which indicated that MI are effective, but it would be useful for further research to identify the individual processes and structures of MI that promote, enduring self-care habits.

The methodology of Kunkler & Whittick (1991) was limited. The key limitations of this paper were that the design of the intervention groups, irregular attendance by participants and inconsistent session material, make it difficult to replicate. Sample sizes were small ranging from one to twelve individuals in groups. It could be possible that staff realised that they were stressed and they felt that it would be seen as a weakness which acted as a

deterrent in them taking part, especially due to the small group sizes (Kunkler & Whittick, 1991). Anonymity of group members' data and confidentiality of issues discussed, were made clear. A decrease in burnout scores was reported (pre and post measures only collected). No statistics were reported so it was difficult to evaluate how much burnout symptoms decreased, therefore assumptions could not be made and results were only suggestive.

In summary, Bragard et al., (2010) and Le Blanc et al., (2007) presented methodologically rigorous papers particularly with their sample sizes. The other three papers also demonstrated some effectiveness but were less robust. A main caveat of the additional three papers was the small sample sizes, with Kunkler & Whittick (1991) having only one individual attend one of the final sessions. This limits the findings as small sample sizes do not allow for data or interventions to be generalised. However, the evidence base would benefit from a defined model of what MI consists of; this would add more clarity and more robust evidence for the approach. Le Blanc et al., (2007) suggest that multimodal approaches could be regarded as a systematic and stepwise method to reduce stress and burnout in which the different parts of the program are not randomly presented, but build on each other to produce the intended effects on individuals' well-being, as some studies have done.

Relaxation interventions

Only one paper was identified as using RI as a stress management intervention for healthcare professionals in an addiction centre (Ossebaard, 2000). This was an excellent +++ quality paper, as it was a randomised control trial. The particular type of relaxation was 'Synchro-energiser techniques', which are believed to induce a relaxation response by

entraining alpha-brain-wave activity using audio-visual stimulation (Ossebaard, 2000).

Evidence suggests that sensory stimulation may be instrumental for relaxation (Morse, 1993).

The sample consisted of forty-two healthcare professionals in an addiction centre. Two experimental groups were offered two forty-minute sessions every week for eight weeks. The author reported that post intervention scores showed a significant reduction of symptoms of stress in comparison to the control group. Anxiety was found to decrease immediately after sessions. An ethical issue for consideration was that participants complained of headaches after sessions. Longitudinal data would be preferable in future research to assess whether relaxation via Synchro-energiser maintains improvement or is more of an instant relief of stress symptoms.

Ossebard (2000) provided evidence for this form of relaxation, but more studies would be needed to contribute to the evidence base in this area.

DISCUSSION

In the present review five different types of stress and burnout reducing interventions were discussed. Four interventions were considered that focussed at an individual level and one was considered that focussed at an organisational level. The majority of evidence available in all domains offered some support for interventions in reducing symptoms of stress and burnout in healthcare professionals. The intervention with the strongest evidence base was Mindfulness interventions, as data were provided from three randomised control trials (gold standard research) and all demonstrated positive treatment effects, i.e. a decrease in stress and burnout symptoms. Multimodal interventions also provided a fairly strong evidence base for stress management interventions. Partial support was found for Organisational interventions, however methodological flaws limited the generalisability. Relaxation interventions via the use of a synchro-energiser provided strong evidence, through an RCT for increasing psychological well-being, but more evidence of using such techniques would be welcomed. Cognitive behavioural interventions produced one of the weaker arguments for the evidence base; even though some support was found for its effectiveness, it was unclear which parts of the intervention were most beneficial. Hunnicutt and MacMillan (1983) reported a decrease of negative symptoms only with the support of clinical supervision after the intervention was received. Whereas, Dierendonck et al.'s (1998) CB intervention did demonstrate a significant decrease in burnout symptoms. More evidence for CB interventions would help determine which part of the intervention led to the reduction in symptoms, particularly as cognitive-behavioural interventions are made of different components (Dierendonck et al., 1998). It is vital to be mindful that although MF did produce the most robust evidence in the field, it may not mean that it is necessarily the best

intervention. More methodologically robust studies in the other interventions may demonstrate effectiveness.

One paper was identified as offering a combined intervention of a CB intervention to clinical staff and an OI to managers (Dierendonck et al., 1998). A reduction in symptoms was demonstrated by both clinical staff and managers and was maintained at one-year follow ups along with a rise in job satisfaction. Previous papers, which discuss healthcare professionals, recommended that more combined interventions should be offered (Murphy, 1998), but interestingly few papers advocate this. A downfall, which could be suggested for solely organisational focussed interventions, is the lack of individual focus. Many organisational tailored interventions aim at enhancing job control; however individual perception, coping skills and the ability to identify stressors is key for staff to maintain healthy psychological well-being (Jones, 1998). It could be argued that any intervention among healthcare professionals should be viewed as part of a multifaceted strategy; therefore any intervention addressed towards individual workers must be accompanied by parallel efforts to intervene at the organisational level and vice versa. Future research would benefit from tailoring interventions in this way to be able to make more conclusive statements in the area of combined interventions.

The length of the interventions offered in all studies varied from six to twenty-one hours of workshops. However, treatment effects were similar. This is an important factor for future researchers in this field to consider, due to the current financial difficulties in the NHS (The Boorman Interim Report, 2010). Professionals attending such groups costs the NHS additional money, with staff attending sessions in work time and those staff being replaced

by additional staff. Also, some staff miss out entirely as they are unable to take time off to attend groups. Mackenzie et al., (2006) offered their MF intervention over six sessions and maintained positive results at follow-ups, and were similar to the results by Cohen-Katz et al., (2005) offering more sessions (nearly double). However, researchers who offered the same session more than once in a week generally had lower drop-out rates throughout the course of the intervention, implying that offering more sessions covering the same topic increases the chances of more staff attending more frequently. Therefore, on one hand it may be suggested that shorter length interventions are more cost effective, but they may not be as accessible as if multiple sessions were offered. This would need further consideration for researchers offering stress management interventions.

A key strength among the majority of papers reviewed was the commonality in the burnout measure used. The most commonly used outcome measure was The Maslach Burnout Inventory (Maslach & Jackson, 1981) and a number of studies reported improvement in burnout scores on this scale which is a well standardised measure. However, a difficulty in comparing studies reviewed in this paper was the variation in outcome measures of stress. Additionally, some papers reviewed numerous other psychological constructs which were tested as indicators of underlying stress, stressors and coping. This highlights the importance of recognising the numerous manifestations of stress, and that an intervention (which may for example demonstrate improvements in mood), will not necessarily be successful for all other types of stress-related outcomes. A number of papers used questionnaires that had been specifically designed for the studies reviewed. These must be evaluated in terms of the extent to which reliability and validity have been established.

Selections of outcome measures should be theory-driven and should reflect the multidimensionality of stress. All of the above would need to be taken into consideration in future research.

A number of methodological issues were encountered in many of the papers reviewed, which posed problems with regard to generalisability and rigour. Very few of the studies reported effect size or provided data for them to be computed; this should be routine, but is particularly important for studies with small samples. Over half of the studies reviewed presented small sample sizes, which meant that the generalisability was limited. Drop-out rates were also an issue, leading to missing data. Papers gave a limited discussion on how to overcome this, therefore this would need thought for future research (Taris, Box & Calje, 2000). The majority of papers did offer follow-up measures but not at extended time frames (e.g. over six months). Follow-up measures are important clinically for a number of reasons: to determine the longer term effectiveness of interventions, extended time measures allow for more conclusions to be considered and finally clinical implications of follow-up measures indicate whether the reduction of stress and burnout symptoms have been maintained. The latter point is of great importance, if a reduction in symptoms is not being maintained then it raises questions about the effectiveness of the intervention and whether it is helpful to healthcare staff in the long term.

All but one of the papers were presented as quantitative papers. Future research should consider using qualitative methods; a strength they provide to research is that rich narratives can be achieved. Qualitative methods may be helpful in establishing which specific

elements of the intervention were most helpful and which parts helped in the longer term in keeping symptoms reduced.

Papers in which the control groups were not offered the intervention at the end of the study raise ethical considerations, especially if symptoms remained the same. This would need to be considered in future research.

The majority of papers that were reviewed did not use Lazarus' (1966) model to underpin the basis for their interventions, or use any other model of stress which was a weakness found in the papers. However, cognitive behavioural interventions were based in cognitive theory and focussed on cognitive appraisal, which is a process identified as a mediator of stress by Lazarus and Folkman (1986) which was a strength. Mindfulness had the strongest evidence base and was based on a psychological model of MF. Mindfulness theory emphasises focusing on the here and now as a way of coping by concentrating on thoughts and feelings and letting go of ruminations. This could be considered as fitting in with Lazarus' (1966) model by not focussing on the stressor but focussing on coping. Researchers should focus on underpinning their interventions on psychological models of stress in future work with theory. Multi-model interventions did have generic coping skills elements, which has been previously been discussed as a criticism of such interventions (Gardner et al., 2005). This review highlights a more varied evidence, teaching a variety of skills which is a positive for the field.

It was difficult to establish in the papers whether the interventions which were offered as a prevention against stress or burnout, or as an intervention per se due to number of professionals exhibiting symptoms. It has been suggested that more considerations for

primary prevention should prevail over interventions that focus on “symptomatic” individuals, in efforts to reduce stress and burnout (Landsbergis, Vivona-Vaughan, 1995; Baker, 1995). For this to be achieved strategies should be proactive and not re-active in the organisational environment.

The majority of studies reviewed were carried out in America and Europe. Only one study was based in the UK (Hill et al., 2010) and was a non-randomised control trial. This is of interest especially due to recent reports by the NHS highlighting the issue of an increase in stress and burnout symptoms in staff (The Boorman Interim Report, 2010). More work-related interventions would be recommended in the UK especially due to high stress rates reported in healthcare professionals.

Conclusion

In summary, the majority of the papers provided in this area were excellent +++ to good ++ quality papers, which is a positive factor. Clinical implications suggest that stress management interventions for healthcare professionals do in fact support the reduction of stress and burnout symptoms. Mindfulness contributed the strongest evidence with three studies to draw upon; these were all RCT'S. Multimodal interventions also provided a large evidence base, however the evidence was less robust as studies were not randomised. Organisational interventions also had a large evidence base but produced mixed results. Only two studies were available that considered cognitive behavioural interventions, but they did show promising results, although the studies were of mixed quality. Although only one study considered relaxation, the evidence was strong due to the study being an RCT. Thus, mindfulness is an intervention which is definitely worth considering as an intervention for

NHS staff. Relaxation would be worth considering but would need replicating in future research, however the practicality of using techniques such as syncro-energisers would need consideration. Multimodal interventions would need more robust evidence before being considered as interventions for the NHS; this would also be the same for organisational interventions. In conclusion, future research should focus on conducting more RCT's in the different intervention domains (Galbraith & Brown, 2011) and more consideration should be paid to methodological issues, including the way in which the interventions are delivered and bigger sample sizes. Suitability of measures should be considered along with the use of follow-up measures.

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EMPIRICAL PAPER

Hardiness and Self-efficacy as mediators of stressors and well-being in Trainee Clinical Psychologists. A National Study.

ABSTRACT

Objectives

This study aimed to consider how stressed trainee clinical psychologists are today and their sources of stress. Hardiness and self-efficacy were also investigated to determine whether they mediated the relationship between stressors and well-being in trainee clinical psychologists.

Design and Methods

A cross sectional questionnaire based design was employed and included second year trainee clinical psychologists across England, Ireland and Wales. A self-efficacy scale was developed specifically for this study via a focus group. Hardiness was measured by the Dispositional Resilience Scale (Bartone, 1989), well-being was measured by The General Health Questionnaire (Goldberg, 1978) and stressors were measured by the Mental Health Professional Stress Scale (Cushway, Tyler & Nolan, 1996).

Results

Results showed that trainee clinical psychologist are moderately stressed and identified workload and professional self-doubt as the greatest sources of stress. Academic and general self-efficacy were found to mediate the relationship between stressors and wellbeing. Hardiness showed little relationship with well-being and neither mediated or moderated the relationship between stressors and well-being.

Conclusions

This study supports past research suggesting that trainee clinical psychologists are a stressed group of healthcare professionals. General and academic self-efficacy were found to buffer stress in trainee clinical psychologists. Hardiness does not appear to be a trait which is important for trainees, possibly due to its association with certain coping styles that feature more strongly in males and the present sample was largely female. Thus the relationship between coping style, academic and general self-efficacy would be recommended for future research, along with sex differences. Future research should focus on self-efficacy, exploring the mechanisms by which this impacts on stress during training and also on ways in which academic and general self-efficacy can be fostered during training.

Keywords: Trainee clinical psychologist, stressors, self-efficacy, hardiness

INTRODUCTION

Stress-related illness and high stress levels have been reported amongst various professional groups, including health professionals (Galbraith & Brown, 2010; Michie & Williams, 2003; Calnan, Wainwright, Forsythe, Wall & Almond, 2001). It has been suggested that working in mental health arenas carries particularly high risk for developing acute stress (Cushway & Tyler, 1996; Hill, Atnas, Ryan, Ashby & Winnington, 2010). Health risks which have been highlighted include burnout, anxiety and depression. One of the most important models of stress in occupational settings is considered to be the stressor-strain model (Frese & Zapf, 1998; Nesselroade, 1991). The growing body of research on occupational stress has shown that stressors are reliably associated with strains (Sparks, Cooper, Fried & Shirom, 1997). The stressor-strain relationship implies that long-term changes in one stressor lead to related changes in the strain variable. For example, when time pressures in a job gradually increase, individuals do not react immediately to the changes in daily time pressures, but instead develop visible psychosomatic symptoms over time (Grast, Molenoor, Frese, 2000).

Kumary and Baker (2008) suggest that psychotherapists in training may be particularly vulnerable to stress and burnout. Previous research on trainee clinical psychologists suggests that, for a significant proportion of trainees, training can be experienced as particularly stressful (Brooks, Holtum & Lavender, 2002). Cushway (1992) reported high levels of psychological distress amongst British trainee clinical psychologists; 75% of trainees stated that they had been moderately or very stressed as a result of training and that the level of stress in the second year of training was higher. Fifty-nine per cent of

trainees reached “caseness” on the General Health Questionnaire (GHQ-28; Goldberg, 1978), which is used as a screening measure reflecting a “just significant clinical disturbance”. Similarly, Kuyken, Peters, Power and Lavender (1998), stated that 25% of trainees in their study reported: significant self-esteem problems; work adjustment problems; depression and anxiety as a result of the pressures of training. The demands of training occupationally, academically and personally have been suggested to be a stressful mix to balance (Cushway & Tyler, 1996, Kuyken, Peters, Power, Lavender & Rabe-Hesketh, 2000). Stress in qualified clinical psychologists has also been reported to be a growing concern with “caseness” levels of distress on the GHQ-28 being found in 40% of clinical psychologists (Hannigan, Edwards & Burnard, 2004; Cushway & Tyler, 1994). Research has demonstrated emergent themes; that qualified clinical psychologists experience mental health problems, including depression, anxiety and somatic difficulties (Prochaska & Norcross, 1983; Coster & Schwebel, 1997; Cushway, Tyler & Nolan, 1996) and are at particular risk like other front line staff such as nurses and doctors (Charlton, 1995).

Cushway (1992) reported on the stressors that have been identified by trainee clinical psychologists and found the most prevalent to be: poor supervision (37%), travelling (23%), meeting deadlines (22%), separation from partner (17%), uncertainty about own capabilities (16%) and changing placements (15%). A number of stressors identified by newly qualified psychologists were also shared by trainees and included client-related difficulties and professional self-doubt (Cushway & Tyler, 1994). Qualified clinical psychologists reported stressors such as lack of resources, pressure of workload, poor organisational communication and management and home-work conflict. The latter in particular has been related to poor

mental well-being (Cushway & Tyler, 1996; Cushway & Tyler, 1994). Cushway et al., (1996) developed a scale to identify stressors in mental health professionals which will be adopted in the present study. Clinical psychology training to date has changed in many different ways and since Cushway's (1992) original study on stressors, it is therefore important to see if stressors have stayed the same or changed over time.

Kuyken et al., (2000) extended the work on stressors in trainee clinical psychologists by exploring psychological adaptation to training. Psychological adaptation is described as a response to the demands placed on an individual's personal and contextual resources for coping with these demands (Lazarus, 1993). Adaptation was measured as a multidimensional profile, including domains of: anxiety, depression, self-esteem, marital problems, family conflict, work adjustment, substance abuse and interpersonal conflict. Trainees' reported poor psychological adaptation, particularly in relation to self-esteem problems, work adjustment problems, anxiety and depression. Negative Significant changes in work adjustment problems, depression and interpersonal conflict were observed specifically from progression from year one to year two of training.

A small proportion of work has focused on the coping strategies of clinical psychologists and has looked predominantly to qualified staff (Cushway & Tyler, 1994; Cushway & Tyler, 1996; Norcross & Prochaska, 1986). Behavioural coping strategies have been shown to be the most used and mainly involved talking with other psychologists. However, social support and behavioural methods have also been highlighted in trainees as a way of coping and psychological adaptation (Cushway, 1992; Kuyken et al., 1998). Cushway (1992) advocated that the trainees in her study made suggestions for alleviating

stress through better communication from managers, improving course structure/organisation and reducing workload. No follow up work has been done regarding this.

Very little research has been conducted with trainee clinical psychologists generally, and research which has been conducted is now dated. Much of the evidence base which is available focuses upon the stressors of training and very little empirical evidence is available regarding what helps to mediate stress or stressors within this group. The present study will consider stress levels in trainee clinical psychologists, the relationship between stressors and well-being in trainee clinical psychologists and how and if the concepts of self-efficacy and hardiness mediate this relationship. Occupational stress in the workplace can have adverse effects on individuals' well-being as well as negative effects on organisational outcomes such as performance and turnover (Lu, Siu & Copper, 2005), therefore highlighting the need for such research.

A large body of work by Bandura (1986) has explored self-efficacy in other educational settings (Bandura, 1986; Zimmerman, 1989; Pajares, 1996; Martin, Chemers, Hu & Garcia, 2001). This will therefore be explored within trainee clinical psychologists as a possible mediator between stressors and well-being. Self-efficacy is defined as:

“The belief in one's capabilities to organise and execute courses of action required to produce given attainments” (Bandura, 1997, pg 14).

One's efficacy beliefs help determine how much effort one will expend on an activity; the higher the sense of efficacy, the greater the effort, persistence, and resilience (Pajares, 1996). Bandura (1997) argued that self-efficacy has the strongest motivational effects

through the process of cognised goals, with individuals who are more self-efficacious setting higher goals (Zimmerman, Bandura & Martinez-Pons, 1992). People with low self-efficacy may believe that things are tougher than they really are, a belief that triggers stress, depression and a narrow vision regarding how to solve the problem.

Self-efficacy impacts the stressor-strain relationships as individuals with high-self efficacy are more likely to believe that they can maintain high levels of job performance despite the presence of challenging job-related stressors (Bandura, 1997; Zimmerman, 2000). It could be suggested that by the time individuals reach clinical psychology training, due to the rigorous pathway they have to go through to gain admission onto doctoral programmes, dealing with stress should be second nature, especially if individuals are self-efficacious (Kuyken, et al., 2000). Research on self-efficacy has highlighted that self-efficacy beliefs should be measured at the highest levels of specificity (Pajares, 1996), especially in relation to stress which has been previously difficult to measure (Dong, 2007).

Self-efficacy in academic settings has received much attention in the past (Pajares, 1996; Solberg & Villarreal, 1998; Chartrands, 1992) and research suggests that it is related to persistence, tenacity, and achievement in educational settings (Bandura, 1986; Schunk, 1981; Zimmerman, 1989). A meta-analysis of research in educational settings (Multon, Brown & Lent, 1991) found that self-efficacy was positively related both to academic performance and to persistence. Evidence suggests that self-efficacious students participate more readily, work harder, persist longer and have fewer adverse emotional reactions when they encounter difficulties than those who doubt their capabilities (Bandura, 1997; Zimmerman, 2000). Due to the various demands of clinical training, it could be argued that being more self-efficacious

would make difficult tasks more manageable along with managing heightened emotional responses more effectively. Generally, more self-efficacious individuals undertake difficult and challenging tasks more readily than less efficacious students (Zimmerman, 2000). Students' beliefs about their self-efficacy to manage academic task demands, can also influence them emotionally by decreasing their stress, anxiety and depression (Bandura, 1997). For example, Pajares and Kranzler (1995) studied the relationship between self-efficacy and students' anxiety reactions on training courses (university students) and found that self-efficacy was a predictor of achievement and lower anxiety symptoms.

In a more recent study, Martin, et al., (2001) conducted research with first year university students measuring academic self-efficacy, adaptation and stress. Compelling evidence was found to support the role of academic self-efficacy and optimism in students' success and adjustment. As predicted, academic self-efficacy was significantly and directly interrelated with academic expectations and academic performance. Students who entered with confidence in their ability to perform well academically, performed significantly better than less confident students. Evidence was also found that students who reported better psychological well-being were more self-efficacious.

Recently, more studies have reported a link between self-efficacy and organisational behaviour (Jin, 2006; Shen, 2009). Shen (2009) carried out a survey on primary and secondary school teachers' mental health status after they found their stress levels were higher than the general population. Findings suggested that teachers who demonstrated higher general self-efficacy had fewer symptoms of stress and increased job satisfaction in comparison to those who had lower self-efficacy. Additionally, it was reported that teachers

with higher general self-efficacy and social support tended to use problem-focused or active coping strategies in comparison to those with low self-efficacy who tended to use more emotion-focused or avoidant coping and had a greater tendency to worry about job-related stressors. Lu, Siu and Cooper (2005) explored the moderating role of managerial self-efficacy on occupational stress in managers. It was reported that managers who had high levels of self-efficacy, reported fewer stress symptoms and fewer physical strain symptoms. Individuals who presented with higher stress symptoms and more physical strain had lower self-efficacy. This finding is also supported by additional research (Jex & Bliese, 1999).

Aside from self-efficacy, in recent years, the trait of hardiness has received attention in organisational work environments (Simoni & Paterson, 1997; Westman, 1990). Original theorists state that hardiness is a personality trait that reflects the courage and motivation to cope effectively with the stressors entailed in daily life (Kobasa, 1979; Maddi, 2005). Hardiness is associated with resilience, good health and performance under a range of stressful conditions (Bartone, 1999; Madi & Kobasa, 1984). Hardiness has three key facets: Commitment (having a sense of purpose such that one is motivated to put in effort), Control (believing that one can influence events using knowledge, skills and choice) and Challenge (viewing difficulties as a challenge rather than a threat, believing change is normal) (Kobasa, 1979). The construct of hardiness has generated interest within the psychological literature (Funk, 1992) and has been studied in many different contexts. Existing evidence suggests that hardy people perform better and stay healthier in the face of stress and stressors (Bartone, 1999; Beasley, Thompson & Davidson, 2003).

The construct of hardiness has been reported to act as a buffer between stressors and burnout in nurses in an array of studies (Duquette, Kerouac, Sandhu, Ducharme & Saulnier, 1995; Rich and Rich, 1987). Simoni and Paterson (1997), reported that nurses with greater hardiness reported less burnout symptoms; this effect was found to be greater in nurses who adopted direct active coping behaviours. This suggests that hardiness is a trait that can prevent burnout and promote well-being. Findings from Lambert and Lambert's (1993) study reported that hardiness had a moderating effect on burnout within nurses. The evidence indicates that hardiness has a positive relationship with burnout, lowering the symptoms and enabling nurses to cope in a more self-protective manner.

Similar traits have been found in non-health care professionals. Westman (1990) examined the relationship between stress and performance in army cadets. It was reported that army cadets who had high levels of hardiness experienced lower stress levels. Furthermore, low levels of hardiness found at the beginning of the course in army cadets, were found to be a significant predictor of the score performance at the end of training. However, for cadets who had high levels of hardiness, stress was not a significant predictor of performance; this study further supports the evidence that there is a link between hardiness and stress. Westman (1990) stated that exposure to stressful events was an intrinsic part of officer training. Consequently, stressors could not be reduced or eliminated as a part of training. Therefore, suggesting that hardy, stress-resistant individuals could be selected and other individuals could be trained in stress management and coping techniques during the training process. In relation to clinical psychology training, the nature of training is similar to the multifaceted nature of cadet training in that trainees experience contact with stressful

situations especially in relation to clinical work e.g. working with complex cases and this stressor cannot be eliminated. Thus, thinking about hardiness as a personality trait might be important in stressful occupations, especially during selection stages. Similar findings were reported from Vogt, Shireen, Rizvi, Jillian, Shipherd, Patricia and Resick (2008) who found that male army cadets who had higher levels of hardiness had lower subsequent stress reactions. Conversely, higher initial stress reactions in army cadets predicted a reduction in hardiness over the course of marine training. In the same study it was found however that in women, hardiness was not protective against subsequent stress reactions, and stress reactions did not lead to a decrease in hardiness over time. This has also been found that in previous studies (Klag & Bradley, 2004; Shepperd & Kashani, 1991). These findings suggest that hardiness may be generally a less influential characteristic for women than men.

There has been little research done on hardiness in academic settings, but the evidence which is available lends support to the fact that hardiness acts as a buffer of stress. Pengilly and Dowd (2000) found that in a sample of college students, there was a moderating effect of hardiness on stress. Students with higher levels of hardiness were less likely to have depressive symptoms when stressed than people with lower hardiness. Specific evidence was found for the hardiness facet of commitment which buffered the effects of stress on depression; once one has signed up to a course they will do their ultimate best to pass. However, a small sample size was reported warranting further research considering the effects of hardiness in academic populations.

Existing hardiness research is conflicting and not all evidence in occupational settings or academic settings has given support to the fact that hardiness lowers stress levels (Bartone,

1984; Kobasa, 1979; Funk & Houston, 1987). Funk and Houston (1987) and Kobasa (1979) both stated that a relationship between stress and hardiness was not found in their studies due to the insensitivity of hardiness measures which were used that had limited construct and predictive validity. More up-to-date measures are now available. More research is needed in this area, which was part of the rationale for choosing hardiness to be explored in this study.

Very few studies have reported on the role of self-efficacy and hardiness as mediators between stressors and stress/strain collectively. Some have looked at the impact of hardiness on coping; the few papers which have considered both traits do provide evidence. For example, Delahaji, Gaillard and Dam (2010), discussed hardiness and coping self-efficacy in army cadets' responses during stressful situations. Coping self-efficacy has been defined as an individual's subjective appraisal of their ability to cope with the environmental demands of a stressful situation which has been related to better psychological adjustment, especially in military settings (Solomon, Weisenberg, Schwarwald & Milkulncer, 1988). Delahaji et al., (2010) reported that coping style was found to mediate the relationship between hardiness and coping behaviour, i.e. more task-focused and less emotion focused supports the hardiness theory. Secondly, it was found that coping self-efficacy mediated the relationship between hardiness and appraisal. Hardy people appeared to be more confident about their ability to cope with a stressful situation and thus appraised the situation as more challenging and less threatening.

Asadi, Azar, Vasudeva and Abdollah (2006) investigated hardiness, self-esteem, and self-efficacy in employed women (lawyers, doctors and teachers) in relation to coping with stressful life events and quality of life. Both high levels of hardiness and self-efficacy were

related to quality of life experienced. It was suggested that people who are high in hardiness were able to cope with stress better as they are able to process adverse experiences more effectively. People high in self-efficacy are competent to meet the challenges they were faced with, achieving their goals, leading to success. Hardiness and self-efficacy were found to be positively related to each other. Commonalities between the two variables were suggested, since people high on hardiness use more problem-focused coping and such people are likely to perceive themselves as self-efficacious (Asadi et al., 2006).

In summary, evidence to date on hardiness and self-efficacy, demonstrates both traits to be an effective buffer between stressors and stress/strain with better psychological well-being. Very little work regarding what buffers stress in trainee clinical psychologists has been conducted, which could be suggested to be important as stress has previously been reported to be high in both trainees and qualified clinical psychologists. Previous research suggests self-efficacy in academic and work settings is important, therefore providing rationale to explore this in trainee clinical psychologists. Also increasing evidence demonstrates support for hardiness as a buffer although some of the evidence is conflicting. Additionally, both hardiness and self-efficacy impact on stress via coping style although not studied here.

Research questions

1. How stressed are clinical psychology trainees?
2. What are the sources of stress for trainees on the Mental Health Professional Stress Scale?
3. Does self-efficacy mediate the relationship between stressors and well-being?
4. Does hardiness mediate the relationship between stressors and well-being?

METHOD

Design

A cross sectional questionnaire based design was employed for this research study and included second year trainee clinical psychologists across England, Ireland and Wales. Questionnaires were administered via a secure Internet web link.

A self-efficacy scale was developed specifically for this study (Clinical Psychology Inventory) and was developed via a focus group (see measures section).

Participants

For the main research study it was estimated that 482 second year trainee clinical psychologists were available as potential participants across training courses after permission was sought from course directors.

Measures

Demographic information

Participants were asked to provide information on their gender, how many years clinical experience they had prior to doctoral training and the level of qualification they had on entry to training.

There was no published research concerning trainee clinical psychologists' hardiness and self-efficacy. However, in order to compare the findings with other studies of stress in trainees (Cushway, 1992; Kuyken et al., 1998) similar scales were used for the measures of stressors and well-being. The final package consisted of four questionnaires (see appendix 2.1).

Hardiness measure – Dispositional Resilience Scale (DRS) (Bartone, 1989)

The DRS originally consisted of 45-items but was later reduced to 30 and 15-items (Bartone, 1995). The 15-item scale was used for this study measuring the personality trait of hardiness. The refined 15-item scale was developed from the 30-item scale which is better balanced for positive and negative items, and for capturing the three conceptually important hardiness facets of: Commitment, Control and Challenge. The DRS is the most widely used measure of hardiness in occupational settings. The 15-item scale was initially tested with army reservists in medical units in the Gulf War. Cronbach's reliability coefficients for the 15-item DRS demonstrated good internal consistency at .83 for the overall scale, and for the facets, Commitment = .77, Control = .71 and Challenge = .70 (Bartone, 1999). Participants are required to answer each of the items on a four-point scale, scored from 1 ('not at all true') to 4 ('completely true').

Well-being measure – The General Health Questionnaire (GHQ-28) (Goldberg, 1978)

The GHQ-28 was developed as a research tool and has been used as a measure of general distress in health professionals, including trainee and qualified clinical psychologists (Firth-Cozens, 1978; Cushway, 1992; Cushway & Tyler, 1994; Cushway et al., 1996). The scale comprises four subscales: somatic symptoms; anxiety and insomnia; social dysfunction; and severe depression. These subscales have no thresholds and are used purely for providing individual diagnostic or profile information. The GHQ-28 has two scoring methods; the Likert method and the GHQ method. Participants were asked to answer each item on a four-point scale. Means for the GHQ total were obtained using the Likert method and the estimate of poor mental-well-being were assessed by the GHQ method. The GHQ

method allows for the possibility to obtain an estimate of “caseness” which, according to the GHQ manual, reflects the concept of a “just significant clinical disturbance”. A cut-off score of five was used to indicate “caseness” (which according the GHQ manual, has an 87% correlation with psychiatric assessment, but does not necessarily indicate that intervention is required). Cronbach’s reliability coefficients have been reported to range from .78 to .95 in various studies (e.g. Jackson, 2007).

Sources of stress measure –Mental Health Professional Stress Scale (MHPSS) (Cushway, Tyler & Nolan, 1996)

The MHPSS is a self-report measure identifying “sources of pressure at work”. The development of this questionnaire was based, in part, on the findings of previous studies of clinical psychologists (Cushway, 1992; Cushway & Tyler, 1994). Internal consistency was reported to be good after the scale was initially developed and employed in a study of qualified clinical psychologists and nurses (alpha = .87 for clinical psychologists; alpha = .94 for nurses). The MHPSS comprises 42 items covering seven factors (stressors): workload; client-related difficulties; organisational structure and processes; relationships and conflicts with other professionals; lack of resources; professional self-doubt; and home-work conflict. Participants were required to answer each of the items on a four-point scale, scored from 1 (‘does not apply to me’) to 4 (‘does apply to me’).

Self-efficacy measure - Clinical Psychology Inventory

Scale development

Initially, searches were conducted to find an appropriate measure for self-efficacy, but due to the lack of research on trainee clinical psychologists and self-efficacy, it was thought appropriate to develop a scale that encompassed all elements of clinical training. A focus group was set up with [REDACTED]

[REDACTED] after permission was sought from the Director [REDACTED].

Questions for the focus group were developed from the British Psychological Society Competency Model for clinical training focusing on barriers and facilitators to completing the various elements of the training course (see appendix 2.2) and to keep in line with the process of developing self-efficacy scales to the highest specificity (Pajares, 1996). Two weeks prior to the focus group, trainees were sent a copy of the participant information sheet and consent form (see appendix 2.3) which included information on the rationale for developing the scale and the main research study and confidentiality of information was discussed in the focus group. Thirteen (76% response rate) consented and took part in the focus group, which lasted one hour and was recorded on a Dictaphone. Data was transcribed and analysed using template analysis (King, 1998). A Priori themes were established and an initial template was developed. Data was then coded and a second template was developed (see appendix 2.4). The final set of themes were reviewed by two second year trainee clinical psychologists studying on the Birmingham course who also added issues that were not captured in the focus group. A final template was developed (refer to appendix 2.4 to see the added material which is highlighted in bold).

The scale was developed from the template and called the Clinical Psychology Inventory (see appendix 2.5). Face validity of the questions was checked with one trainee

from Birmingham and a course staff member to verify the meaning of questions. No questions were changed. A pilot test of the questionnaire was conducted with ten second year trainees' on the Birmingham course who were asked to fill out questionnaires a week apart to ensure questionnaire reliability (seven people completed the questionnaire twice). Test re-test reliability was found to be moderate but it was decided that it would continue to be used due to the small size of the sample which may have reduced reliability.

The final inventory had 3 subscales; clinical self-efficacy, academic self-efficacy and general self-efficacy, with a total of 35 items. Participants were asked to answer each item by rating their degree of confidence in performing each task from 1 – 100 (e.g. Gain access to resources that will help you work effectively clinically), keeping in line with recommendations of Bandura (1994) on scale development. Internal consistency of the inventory was found to be good at .90 for the overall scale and for the subscales, academic self-efficacy .93, clinical self-efficacy .85 and general self-efficacy .87.

Procedure

Ethical approval for this study was obtained from The University of Birmingham Ethics Committee (see appendix 2.6 to see ethics form and 2.7 for letter of approval).

Due to the nature of the questions being asked in this study, much consideration was given to ethical issues which may be raised. After participants finished their questionnaire, if they felt distressed in any way or wanted to discuss anything after completing the study, participants were advised to speak to their appraisal or personal tutor on their course. Or

alternatively contact the researcher directly. This was discussed with the respective courses in the planning stages of this study.

Main study

All thirty clinical psychology doctorate courses were contacted across England, Wales & Ireland. Course directors were sent information regarding the research and were asked for consent to contact second year trainees. As discussed earlier, year two trainees were selected as previous research has highlighted that year two trainees have the highest stress levels (Cushway, 1992). Twenty five course directors consented for trainees to be contacted. Questionnaires were sent to trainees via a secure web link which included an information sheet including the rationale for the research, confidentiality, consent and how to withdraw their data (see appendix 2.8 for information sheets). Consent was requested twice, once at the beginning of the questionnaire and once before responses were submitted. Due to the questionnaires being anonymous, participants were requested to record the date and time they filled in the questionnaire as this was the only way in which responses could be tracked for data to be removed if they decided to withdraw. Contact details of the researchers were provided to all participants should they have any questions related to research. Reminder emails were sent four weeks later for trainees to complete the questionnaires; the study was closed after three months.

Data analysis

Data analysis was performed using the statistical package SPSS Version 18.0 (2009). Descriptive statistics (mean, standard deviation and range) were calculated for participants'

responses on all questionnaires. A one-sample Kolmogorov-Smirnov test was used to check whether the data was normally distributed. Pearsons Product Moment correlation coefficients were used to explore the relationship between variables prior to mediation analysis. In order to reduce the possibility of type 1 error the P value was set to .01.

A mediation analysis (Baron & Kenny, 1986) was conducted to explore potential relationships between variables which correlated. A Sobel test (Sobel, 1982) was used to determine the significance of any mediation found.

RESULTS

Participants

One hundred and thirty two trainees consented to take part in the study (27% response rate). Sixteen responses were incomplete leaving the total number of responses as 116. A sample size of between 110 and 120 participants would be able to detect a medium to large effect size with a power in excess of 0.8 (Based on Cohen's 1998 conventions for describing effect size).

In total, 92 (79%) of the participants were female and 24 (21%) were males. Sixty-five (54%) had undergraduate qualifications, 44 (38%) had Master's qualifications and 7 (6%) had PhD's. The amount of clinical experience prior to training varied, 89 (77%) individuals had 0-5 years, 23 (20%) individuals had 6-10 years and 4 (3%) individuals had 11-15 years. In comparison to all trainees across training courses in 2009 cohort the percentage of males to females is 15%, the proportion with MSc's is 27% and PhD's is 3%.

A one-sample Kolmogorov-Smirnov test was conducted which showed that all data were normally distributed, allowing for parametric tests to be employed.

Research question 1 - How stressed are trainees?

Table 1 shows descriptive information for measures used in the study. As can be seen in table 1, the level of distress reported by trainee clinical psychologists (as measured by the GHQ-28) indicated that 59% of the total sample scored greater than 5 i.e. beyond the cut off for caseness, demonstrating poor mental well-being.

Table 1: Descriptive data for all measures

Measure	Mean	Standard deviation	Range (Minimum to maximum)
Academic Self-Efficacy	76.5	13.5	38.8-100.0
Clinical Self-Efficacy	71.5	9.6	41.4-92.1
General Self-Efficacy	64.3	14.3	30.0-96.1
Mental Health Professional Stress Scale	77	16.3	87.0-120.0
General Health Questionnaire(Likert scoring) GHQ method* *> 5 (indicates caseness)	52.9 59%	10.9	34.0-83.0
Dispositional Resilience Questionnaire (Hardiness)	36.0	3.1	27.0-44.0

Research question 2 - What are the sources of stress for trainees on the MHPSS?

As can be seen in table 2, trainee clinical psychologist rated workload on the MHPSS as the greatest source of stress. Factors within this subsection included: amount of work; time to complete tasks; volume of clinical work and amount of hours worked. Professional self-doubt was second greatest source of stress and included items focusing upon: skills possessed to complete clinical work; questioning own ability to complete set tasks and keeping skills up to date.

Table 2: Descriptive data for subsections on MHPSS

Subsection on MHPSS	Mean	Standard deviation	Range (Minimum to maximum)
Workload	2.3	.60	1.0-3.6
Client-related difficulties	1.9	.53	1.0-3.5
Organisational structure and processes	1.6	.63	1.0-4.0
Relationship and conflicts with other professionals	1.5	.53	1.0-4.0
Lack of resources	1.4	.53	1.0-3.6
Professional self-doubt	2.0	.58	1.0-4.0
Home-work conflict	1.9	.65	1.0-4.0

A one-way Anova with post hoc tests demonstrated that workload was a significant stressor $P < .001$ in comparison to lack of resources for example with means of .366* and .803* respectively (see appendix 2.9).

The significance of the overall Anova with post hoc tests was $[F(6, 110) = 45.29, P < .001]$ (see appendix 2.9).

Research question 3 and 4 - Does self-efficacy mediate the relationship between stressors and well-being? Does hardiness mediate the relationship between stressors and well-being?

A Pearson product-moment correlation coefficient was computed to assess the relationship between variables. As can be seen in table 3, there was a significant negative relationship between well-being (GHQ-28), clinical self-efficacy, academic self-efficacy and general self-efficacy indicating that higher GHQ-28 scores (lower well-being) were associated with lower self-efficacy on all three facets.

There was a negative relationship between stressors (MHPSS), clinical self-efficacy, academic self-efficacy and general self-efficacy indicating the more stressors one identified was associated with lower self-efficacy.

The only correlation with hardiness was academic self-efficacy indicating that harder people have higher academic self-efficacy, this only reached significance at $p < .05$.

However the individual facets of hardiness (commitment and challenge) did show a relationship with well-being. There was negative relationship between challenge and well-being indicating that higher GHQ-28 scores (lower well-being) was associated with lower hardiness on the challenge facet. Interestingly, there was a positive relationship between GHQ-28 scores and commitment, indicating that higher GHQ scores (lower well-being) was associated with higher hardiness on the commitment facet. This was only just significant.

There was a negative relationship between stressors (MHPSS) and challenge indicating that the more stressors one identified the lower the hardiness on the challenge facet.

As would be expected, there was a strong positive correlation between the number of stressors (MHPSS) and well being (GHQ-28).

Table 3: Pearson correlation coefficients of all data

	Well-being (GHQ)	Stressors (MHPSS)	Hardiness (DRS)	Academic SE	Clinical SE
Well-being (GHQ)					
Stressors (MHPSS)	.55**				
Hardiness (DRS) <i>CM</i>	-.04 .19*	-.06 .09			
<i>CO</i>	.11	.03			
<i>CH</i>	-.31**	-.19*			
Academic SE	-.38**	-.25**	.19*		
Clinical SE	-.29*	-.23*	.16	.62**	
General SE	-.50**	-.37**	.03	.61**	.49**

Key: facets of hardiness

CM-Commitment

CO-Control

CH-Challenge

** correlation is significant at the 0.01 level

* correlation is significant at the 0.05 level

A regression analysis (Baron & Kenny, 1986) was conducted to explore for potential mediated relationships between stressors and well-being, with the mediators being the facets

of self-efficacy or hardiness. A Sobel Test (Sobel, 1982) was used to determine the significance of any mediation found.

Baron and Kenny (1986) state that four conditions must be met for complete mediation. In the first step, the mediator variable (e.g. clinical self efficacy) and predictor variable (e.g. stressors) are entered into a regression equation, demonstrating that stressors are correlated with clinical self-efficacy (path a). If significant, this indicates the path has been met. The predictor variable (e.g. stressors) and the outcome variable (e.g. well-being) are then entered into the equation to test for mediation (path c) this constitutes step two. This condition must be met to be able to continue. The third regression is if the mediator (e.g. clinical self efficacy) influences the outcome variable (e.g. well-being) while controlling for the predictor (e.g. stressors) (path b) which should be significant. The final step states that for complete mediation to have occurred, the effect (beta value) of the predictor (e.g. stressors) on the outcome (e.g. well-being) while controlling for the mediator (i.e. clinical self efficacy) is required to be zero, if not, only partial mediation has occurred.

Four mediation analyses were performed to see whether: clinical self-efficacy, academic self-efficacy, general self-efficacy and hardiness (challenge), mediated the relationship between stressors and well-being. Results are shown in figure 1 to 4. No mediation was carried out on commitment due to the low significance value.

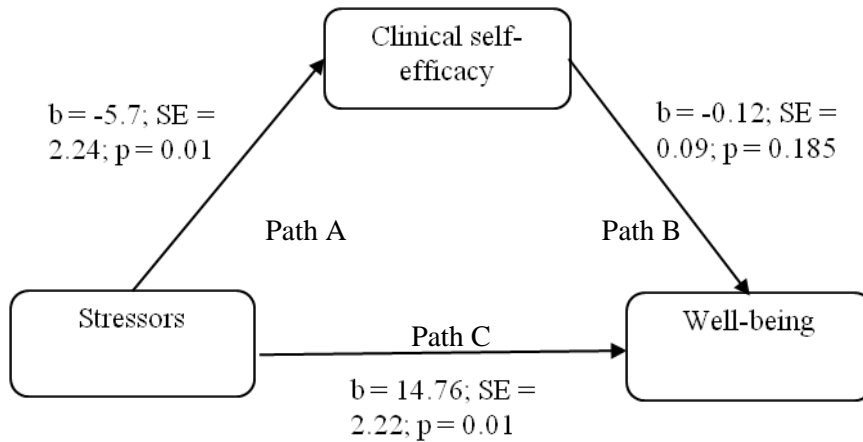


Figure 1: Clinical self-efficacy as a mediator between stressors and well-being

For clinical self-efficacy the overall significance of the mediated path was assessed using the SOBEL test (Sobel, 1982). The mediating effect of clinical self-efficacy upon the relationship between stressors and well-being was not significant ($z = 1.18$; $p = 0.23$).

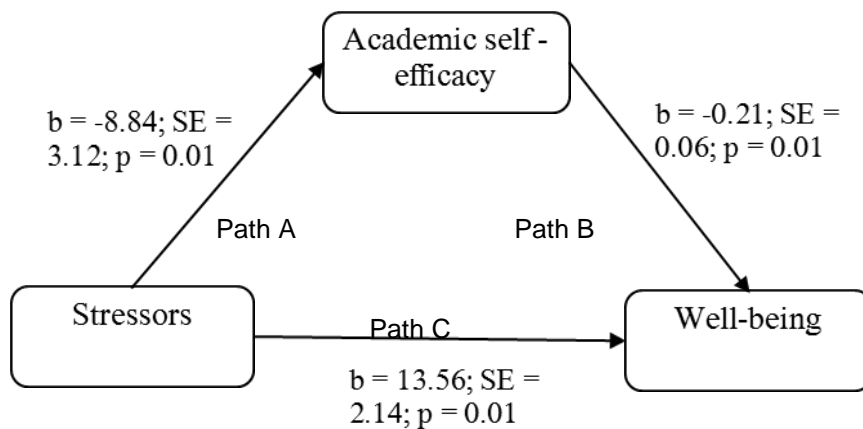


Figure 2: Academic self-efficacy as a mediator between stressors and well-being

For academic self-efficacy, the overall significance of the mediated path was assessed using the SOBEL test (Sobel, 1982). The mediating effect of academic self-efficacy upon the

relationship between stressors and well-being was statistically significant ($z = 2.18$; $p = 0.02$).

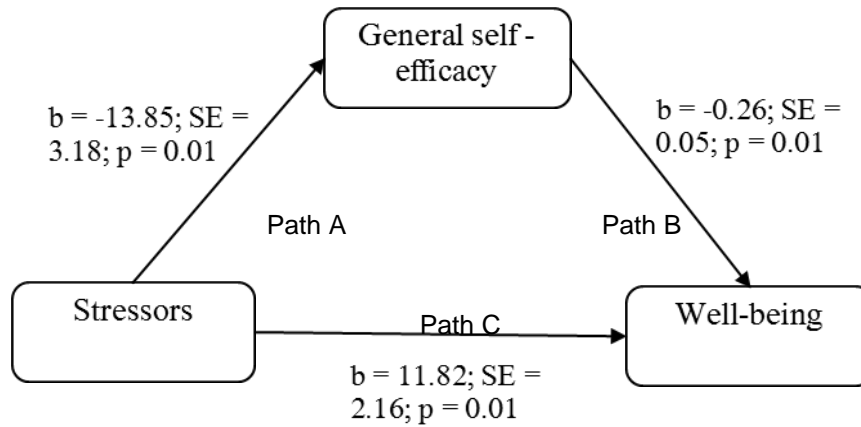


Figure 3: General self-efficacy as a mediator between stressors and well-being

For general self-efficacy, the overall significance of the mediated path was assessed using the SOBEL test (Sobel, 1982). The mediating effect of general self-efficacy upon the relationship between stressors and well-being was statistically significant ($z = 3.10$; $p = 0.001$).

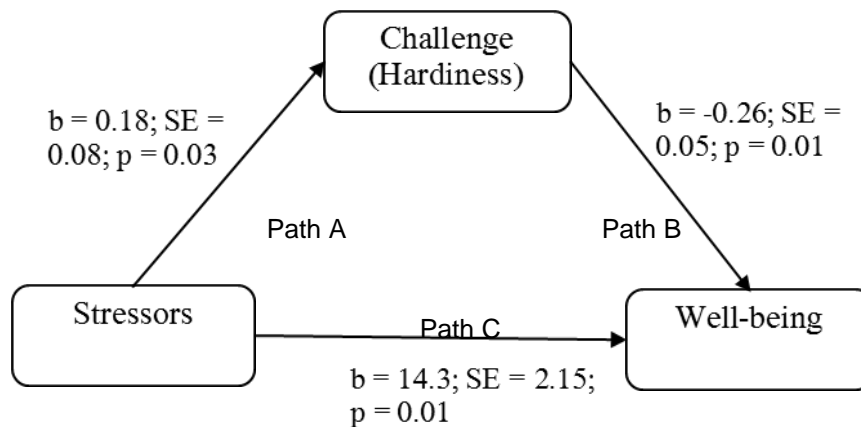


Figure 4: Challenge as a mediator between stressors and well-being

For challenge, the overall significance of the mediated path was assessed using the SOBEL test (Sobel, 1982). The mediating effect of challenge upon the relationship between stressors and well-being was not significant ($z = 1.67$; $p = 0.09$).

Given the lack of correlation between hardiness, stress and well-being, a moderation analysis (Baron & Kenney, 1986) was conducted to explore whether hardiness in general was a moderator and not a mediator as described by Baron and Kenny (1986). A hierarchical regression was undertaken in which the relationship between stress and well-being was modelled at step 1. This resulted in a significant relationship between stress and well-being ($B = 0.554$; $t = 7.13$; $p < 0.01$). The effect of the moderating variable was then entered into the hierarchical regression. This resulted in a non-significant path between hardiness and well-being ($B = 0.068$; $t = 0.723$; $p = 0.47$). Accordingly, this analysis does not support the moderating effect of hardiness upon the relationship between stress and well-being.

DISCUSSION

This study considered the following: how stressed are trainee clinical psychologists, what are the stressors they experience and does self-efficacy or hardiness mediate the relationship between stressors and well-being. Each research question will be discussed in turn along with discussion on the self-efficacy scale, which was developed for this study. Limitations of this study and suggestions for future research will also be discussed.

The levels of distress reported in this study were moderately high, with 59 % of respondents scoring above the conventional cut-off score on the GHQ. This indicates that 59 % of second year trainee clinical psychologists demonstrated poor mental well-being. The exact same finding was reported by Cushway (1992), therefore implying that stress levels in training are still the same even though aspects of clinical training have changed. For example, it is now a three year course; clinical placements are longer; introduction of the competency model and a salary is received by trainees rather than a bursary. Additionally, this finding is in line with Kuyken et al.'s (1998) study where difficulties were noted with adjustment, depression and interpersonal conflict with second year trainees. Compared to other training professional groups using the GHQ, for example, 32.5% of medical students scored above the threshold (Guthrie, Black, Bagolkote, Shaw, Campbell & Freed, 1998) and 50.4% of student nurses score above the threshold. Compared to both of these groups, trainees appear to be the most stressed group. This poses the question as to why they differ, this will be discussed further below in relation to stressors.

The GHQ-28 manual reflects the concept of a “just significant clinical disturbance.” This does not necessarily indicate that those individuals scoring above the threshold require an intervention per se. However, it is important for training courses to be aware of the potential for stress to be at a high level and have measures in place to deal with it. For example, appraisal tutors could keep a check on stress levels with perhaps additional meetings in year two and trainees could be made aware of support networks available to them.

The high number of trainees in this study who fell above the threshold is in keeping with other findings of second year trainees experiencing stress and poor well-being (Cushway, 1992). However, a comparison study between all three years would need to be carried out to ascertain whether second year trainees are still the most stressed group compared to year one and three. Findings from an unpublished longitudinal study indicate that stress is at its highest in the second year (Phillips, Hatton & Grey, 2004). A more up-to-date study would determine whether second year trainees remain the most stressed year group.

Trainee clinical psychologists in the current study reported “workload” and “professional self-doubt” to be two of the main sources of stress they faced through training. The subscale workload consisted of: too much work to do; not enough time to complete tasks; too many clients; working long hours and meeting deadlines. The latter was highlighted twenty years ago in trainees (Cushway, 1992), although the present study differed as the whole domain of workload was identified as a stressor rather than just one facet (meeting deadlines). This suggests that the multiple demand of a doctoral level clinical

psychology training course i.e. clinical, academic and research, is a consistent stressor and is perhaps what differentiates trainees from other professions. Trainees are faced with clinical work and their own caseload from the outset unlike trainee medical students who are shadowing for longer periods of time. Therefore juggling the academic, clinical and personal demands may contribute to trainees stress levels. However, it is unclear whether trainees experience this stressor more with clinical or academic work, or both and therefore this would warrant further research. Another contribution to workload stress may be working conditions in the current National Health Service (NHS) such as: working under pressures; being often under resourced and often seeing clients under service constraints e.g. limited to 6-12 sessions only (Department of Health, 2009). Suggestions have been made that better NHS management would help alleviate some of the stressors discussed above (Michie & Williams, 2003).

The second most important stressor, professional self-doubt, included: feeling inadequately skilled for dealing with emotional needs of clients/patients; uncertainty about own capabilities; keeping professional/clinical skills up-to-date and fear of making a mistake over a client/patient's treatment. Although, professional self-doubt was not one of the greatest stressors in Cushway's (1992) study, uncertainty about own capabilities within this domain was highlighted as a source of stress by trainees. Furthermore, Cushway and Tyler (1994), reported that newly qualified clinical psychologists were more likely to report professional self-doubt. Perhaps clinical training courses could consider how to help develop trainees' confidence and beliefs regarding these issues. Literature from medical training suggests that increased confidence has been associated with self-directed monitoring of needs

which are then discussed with tutors who provide one-to one teaching on topics (Whitehouse, O'Neill & Dornan, 2002). Alternatively, courses might consider ways in which to help trainees cope with such feelings e.g. in targeted tutorials or reflective practice groups.

Home-work conflict and client-related difficulties, although not the main sources of pressure, were still identified as stressors. The home-work conflict domain consisted of: not enough time with the family; travelling demands; inability to separate personal life from professional role and relationship with spouse/partner affects work. Although this finding is consistent with Cushway's (1992) original findings of separation from partner and travelling as stressors, it is not rated as highly as in her study. Qualified psychologists and nurses also highlighted these same sources of stress as trainees today (Cushway, et al., 1996). As Cushway et al., (1996) stated, when work pressures threaten other roles, one is more likely to feel distressed, leading to poorer mental well-being. For example, taking work home may impinge on time with the family. Piercy et al., (1987) discussed the reciprocal impact of family-work demands and reported that therapists faced emotional burnout when they were faced with confronting problems in their relationship in addition to listening to other people's problems. It has also been highlighted that having the support of a partner can buffer the effects of stress (Cushway et al., 1994). Social support has been found to buffer stress in trainee clinical psychologists and other healthcare professionals (Kuyken et al., 1998; Bradley & Cartwright, 2002).

Client-related difficulties included facets such as: dealing with death or suffering; no change or slow change in clients/patients; difficult and/or demanding clients and managing therapeutic relationship. This was not found to be a stressor by Cushway (1992) but has been

identified in mental health nurses (Cushway et al., 1996; Sutherland & Cooper, 1990). This finding could be associated with the growing pressures in the NHS for faster throughput of clients (Department of Health, 2011) or it may be suggested that trainees are seeing more complex clients than before.

Organisational structure and processes, relationship and conflicts with other professionals and lack of resources, were all stressors that were identified but were not scored as highly as the other stressors discussed. Trainees in the past reported “poor supervision” (Organisational structure and processes) to be one of the greatest stressors (Cushway, 1992). Given that poor supervision is not acceptable within professional groups (Watkins, 1993); it is reassuring to see that this is no longer one of the main sources of stress. Additionally, a more recent study has reported that trainee clinical psychologists rated their supervision experiences better than expected (Brooks, Holtum & Lavender, 2002) highlighting the difference in supervision experienced by trainees today. Improved supervisor training by courses may be one of the reasons that this is no longer such a stressor.

It is important to be mindful that Cushway’s (1992) original study on trainees was representative of all three years of training, whereas this study represents only second year trainees. Therefore, further work identifying stressors in all three years would allow for more comparisons to be made.

The third research question was whether self-efficacy mediated the relationship between stressors and well-being. The self-efficacy measure developed for this study used three subscales measuring clinical, academic and general self-efficacy. Clinical self-efficacy failed to show a mediating effect on the relationship between stressors and well-being. Both

academic and general self-efficacy did however mediate the relationship between stressors and well-being.

The buffering effects of academic self-efficacy are supported by past research stating that students who are more academically self-efficacious have better psychological well-being and lower levels of anxiety (Martin et al., 2001; Pajares & Kranzler, 1995). Bandura (1997) suggests that one's efficacy beliefs help to determine the amount of effort and persistence one will put into academic tasks, leading to less stressful academic experience. More self-efficacious students undertake difficult and challenging tasks more readily than less efficacious individuals as the greater their interest in them, the better they prepare themselves educationally for the occupational pursuits they choose and the greater their success (Zimmerman, 2000; Bandura, 1994). One might therefore question whether it is necessary for clinical courses to select for academic self-efficacy or foster this during training. Given the relationship between academic self-efficacy and academic success (Zimmerman, 2000), one would expect the selection process to account for this with most courses currently requiring a 2:1 degree or higher which is positive as they are keeping with suggestions in the self-efficacy literature (Bandura, 1997; Zimmerman, 2000). However, it perhaps lends weight to the practice of checking transcripts in order to prioritise those with higher 2:1 degrees.

An interesting piece of future research would be to examine whether academic self-efficacy does indeed correlate with higher qualifications e.g. having a PhD, unfortunately however, the sample of individuals with PhD's in this study was too small (n=7).

General self-efficacy was also found to act as a mediator between stressors and well-being. This consisted of the trainees perceived degree of confidence in: balancing work and home life pressures; having time for self-care; managing travelling requirements of the course and accessing support from family when feeling stressed in relation to the course. This indicates that general self-efficacy is very important as those who feel able to access support and self-care seem to fare better psychologically. This finding is in keeping with the fact that home-work conflict continues to be a prominent stressor as identified in this study and by Cushway (1992). Given that it would prove difficult to select individuals on this basis, it may be something which could be monitored with appraisal tutors. Courses may also consider flexible working or part time courses to help alleviate pressures.

Shen (2009) has also found support for the role of general self-efficacy in teachers. General self-efficacy in this study included factors such as work/home life balance. He reported that teachers high in general self-efficacy had fewer symptoms of stress in comparison to those low in general self-efficacy. Shen (2009) also made links between self-efficacy and particular behavioural coping styles. This could be something which could be considered in future research to identify whether being self-efficacious means that a particular coping style is adopted.

Clinical self-efficacy did not affect the relationship between stressors and well-being. Clinical self-efficacy included items such as: working effectively with new client groups; working effectively with a psychological model which is new to you; coping with the emotional impact of working with people in distress and meeting the requirements of the placement. This was an unexpected finding as previous literature suggests that self-efficacy

in the work place is associated with lower symptoms of stress and improve well-being (Liu, et al., 2005; Shen, 2009). Whilst clinical experience is a vital aspect of selection for training, the finding from this study suggest that clinical experience may not be as important as academic experience in terms of buffering stress (assuming length of clinical experience correlates with clinical self-efficacy) that is not to say it is unimportant for achieving clinical competence. One might speculate that clinical self-efficacy could be more important as a buffer in year one when clinical stressors might be greater as placements just begin. There is thus much scope for future research examining whether clinical and academic self-efficacy varies across training.

The scale that was developed as a measure of self-efficacy demonstrated good internal consistency. Re-test reliability during the pilot phase of the scale was found to be moderate, this may have been due to the small sample size but would need to be considered if it were to be used for future research. Face validity of the questions was strong and no changes were made during this phase of scale development. This scale was developed using year two trainees only; it would be of interest to see how year one and year three trainees responded.

Unfortunately, hardiness as a unitary concept did not correlate with stressors and well-being. Even though the individual facet of challenge did correlate with stressors and well-being, challenge still failed to mediate the relationship between stressors and well-being. The concept of challenge is related to Bandura's notion that self-efficacious individuals expend more effort perhaps also because they view difficulties as a challenge rather than a threat (Kobasa, 1979). Therefore this may be why a relationship was found between

challenge and well-being. A moderation analysis was then conducted to explore whether the trait of hardiness moderated the relationship between stressors and well-being but this was not demonstrated either.

Previous research on hardiness in occupational settings is inconsistent with some studies reporting that hardiness is a buffer to stress and others reporting that it is not (Duquette et al., 1995; Funk & Houston, 1987). Hardiness is a trait which is associated with resilience, strength and good performance under difficult conditions (Bartone, 1999), therefore it was a relationship which would have been expected to be present in trainee clinical psychologists, especially due to the demanding nature of training.

One possibility may be, as previously mentioned, the relationship between stress and hardiness may differ for men and women (Vogt et al., 2008; Klag & Bradley, 2004). Evidence suggests that men appear to be hardier and a link for this has been suggested for men through active problem-focused coping (Maddi, 2002; Voget et al., 2008). It has been reported that problem-focused coping strategies are more effective for men because active and assertive coping behaviours are more consistent with the male role perhaps making men then also appear hardier (Sigmon, Stanton & Snyder, 1995). Hardiness was not found to be protective against stress for female army cadets (Vogt et al., 2008) and the majority of the sample in this research was women, which may have contributed to the findings. This is interesting; it may be that the relationship between hardiness and stress is different for women, which may be related to their coping style, which tends to be more emotion focused, e.g. seeking social support, (Ptacek, Smith & Dodge, 1994). Or perhaps the concept of hardiness may even be less appropriate for women which would be interesting area for future

research. Alternatively, it could be suggested that hardiness is not a trait which is important for trainees and the answer lies in self-efficacy and possibly coping style.

Overall, more exploration is needed in relation to hardiness in academic settings as the only existing study is that of Pengilly & Dowd's (2000) who found that social support correlated with hardiness and stress in college students.

Limitations

The main methodological limitation of this study may be that of sampling bias with an over representation of males and individuals having postgraduate qualifications. The sample size was relatively small in relation to the number of trainees available nationwide which could limit generalisability.

Future research

The lack of previous research on trainee clinical psychologists and the findings from this study warrant further consideration and research. In relation to the stressor-strain relationship (Frese & Zapf, 1998), more consideration is needed specifically related to the buffers of stress in trainee clinical psychologists. One possibility for future research could be to examine if there is a sex difference in how hardiness mediates the relationship between stressors and well-being. Coping styles of trainees could be considered in relation to whether self-efficacy or hardiness, impact on coping as the literature states. Future research could also consider what predicts academic self-efficacy e.g. qualifications prior to starting training and how to foster academic and general self-efficacy in trainees. Finally, a qualitative method could be used to explore stressors further with trainees and obtain richer data to help

course leaders think about whether they can do anything to support trainees through their training journey.

In conclusion, it was highlighted that year two trainee clinical psychologists are moderately stressed. The greatest stressors were workload and professional self-doubt. Academic and general self-efficacy demonstrated a mediational relationship between stressors and well-being, whereas, clinical self-efficacy did not mediate. More research is needed to consider factors that might reduce negative symptoms related to the stress-strain relationship. In other professional groups, coping style, self-efficacy and social support have been found to be the most effective buffers of stress (Cushway, 1992; Shen, 2009; Chemers et al., 2001). Whilst this study begins to explore the possible factors that mediate the relationship between stressors and well-being, further research is needed to ensure: Trainees are getting the best available support through training; courses are aware of factors to foster through training and to contribute further to the small evidence base on trainee clinical psychologists.

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PUBLIC DOMAIN BRIEFING PAPER

Hardiness and Self-efficacy as mediators of stressors and well-being in Trainee Clinical Psychologists. A National Study.

The research study was carried out by Neha Pathak (Trainee Clinical Psychologist) in partial fulfilment of the degree of Doctor of Clinical Psychology (Clin. Psy. D) at the University of Birmingham.

Background

Stress in the workplace has been highlighted for many years and is a growing concern. Mental health concerns that have been highlighted include; stress, depression and anxiety. Stress in trainee clinical psychologists has previously been identified as high; 75% (of who) reported being moderately or very stressed due to clinical training (Cushway, 1992). Stress in qualified clinical psychologists is becoming a growing concern and is an area that warrants more research. The causes of stress, referred to as stressors, that have been highlighted by trainee clinical psychologists include; travelling, meeting deadlines, separation from partner and uncertainty about own capabilities.

Self-efficacy has been described as an individual having a belief in their own capabilities to complete tasks with which they are presented (Bandura, 1997). A strong body of research gives support to self-efficacy, both in the workplace and academic settings. Evidence suggests that students who are more self-efficacious work harder, persist longer and have fewer symptoms of stress when they come across difficulties in their academic work. In the workplace, individuals who are more self-efficacious have been found to have fewer symptoms of stress.

Hardiness is a personality trait that reflects the courage and motivation to cope effectively with the stressors met in daily life (Kobasa, 1979). An individual who is hardy in their personality has the ability to cope better with stress and control how they react to challenges in a more flexible, confident and less destructive way. Studies give support to hardiness being protective against stress and burnout in the workplace.

Aims

This study aimed to consider how stressed trainee clinical psychologists are today and what their sources of stress are. Hardiness and self-efficacy were also investigated to see whether they buffered the relationship between stressors and well-being in trainee clinical psychologists.

Method

Trainee clinical psychologists in England, Ireland and Wales were contacted to take part in this study. A total of 132 second year trainee clinical psychologists took part. Trainees were asked to fill out questionnaires regarding hardiness, self-efficacy, well-being and stressors. The self-efficacy scale was developed specifically for this study and measured clinical, academic and general self-efficacy. Responses were collected via a secure web-link. Ethical approval was obtained from The University of Birmingham Ethics Committee.

Summary of Research Findings

Results showed that trainee clinical psychologist are moderately stressed. The four main stressors which trainees identified as a source of stress were; workload, professional

self-doubt, home-work conflict and client-related difficulties. Academic and general self-efficacy were found to buffer the relationship between stressors and wellbeing. Hardiness showed little relationship with well-being and did not buffer the relationship between stressors and well-being.

Limitations of the Research

The response rate of the questionnaires was low and the study therefore had a small sample size. This may be related to the fact that trainees are very busy juggling demands of the course and also because the topic area may have made trainees uncomfortable. It is also possible that trainees did not want to disclose information about their well-being and issues which were they deemed to be stressors.

Implications for Clinical Practice and Future Research

Evidence from this study suggests that trainees are stressed; this needs to be considered by course leaders when thinking about processes to help students reduce pressures and stress. General and academic self-efficacy were found to buffer stress in trainee clinical psychologists. This finding needs to be considered with regards to selection of trainees and how to foster these concepts through training. Hardiness does not appear to be a trait that is important for trainees; this is possibly due to its association with certain coping styles that feature more strongly in males; the present sample was largely female. Future research could focus upon sex differences. The evidence base is was small regarding what buffers stress in trainees; further research is needed to ensure that: Trainees are getting the best available

support through training, course leaders are aware of factors to foster through training and to contribute further to the small evidence base on trainee clinical psychologists.

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Appendix 1.1

Qualitative quality criteria

Qualitative quality criteria
Triangulation of sources
Triangulation of methods
Triangulation of investigators
Triangulation of theory/perspective
Member checks
Use of quotations
Informed consent stated
Ethical review undertaken
Statement that confidentiality protected
Statement of purpose
Statement of research questions
Rationale for using qualitative methods
Description of study context
Statement of how setting was selected
Sampling procedures described
Justification or rationale for sampling strategy
Description of participants or informants
Data gathering procedures described
Audiotaping procedures described
Transcription procedures described
Field note procedures described
Data analysis described
Coding techniques described
Statement that reflexive journals or logbooks kept
Description of raw data
External audit of purpose
Statement of researchers assumptions or perspectives

Appendix 1.2

Examples of quality scoring on articles

Table 1	Study			
Quantitative quality criteria	Dierendonck, Buunk & Schaufeli 1998	Le Blanc, Hox & Taris 2007	Cohen-Katz, Wiley, Capuano, Baker & Shapiro 2005	
Truth Value				
Extraneous or confounding variables identified	1	1	1	
Extraneous or confounding variable(s) or baseline differences controlled for in the analysis	0	1	1	
Statement about comparability of control group at baseline	1	1	1	
Informed consent stated	1	1	1	
Ethical review undertaken	1	1	1	
Statement that confidentiality protected	1	1	1	
Subtotal	5	6	6	
Study				
Quantitative quality criteria				
Applicability				
Statement of purpose	1	1	1	
Objective of study explicitly stated or described	1	1	1	
Description of intervention if Appropriate	1	1	0	
Outcome measure(s) defined	1	1	1	
Assessment of outcome blinded	0	0.5	1	
Description of setting or conditions under which	0	1	0.5	

data collected				
Design stated explicitly i.e. case study, cross-sectional study, cohort study, RCT	1	1	1	
Subject recruitment or sampling selection described	1	1	1	
Sample randomly selected	0	0	1	
Inclusion and exclusion criteria for subject selection stated explicitly	1	1	1	
Study population defined or described	1	1	1	
Source of subjects stated i.e. sampling frame identified	1	1	1	
Selection of controls described	1	1	1	
Control or comparison group	1	1	1	
Statement about nonrespondents	1	1	1	
Missing data addressed	1	1	0.5	
Power calculation to assess adequacy of sample size or sample size calculated for adequate power	0	0	0	
Statistical procedures referenced or described	1	1	1	
<i>p</i> values stated	1	1	1	
Confidence intervals given for main results	1	1	0	
Data gathering procedures described	1	1	0.5	

Data collection instruments or source of data described	1	1	1	
At least one hypothesis stated	1	1	1	
Both statistical and clinical significance acknowledged	1	1	1	
Subtotal	20	21.5	20	
Possible Maximum Total Score	30	30	30	
Total Score	25	27.5	26	

Appendix 2.1

Measures

THE GENERAL HEALTH QUESTIONNAIRE

Please read this carefully.

We would like to know if you have had any medical complaints and how your health has been in general, *over the past few weeks*. Please answer ALL the questions. Please read the questions below and each of the four possible answers. Choose the answer that best applies to you by placing an x in the grey box.

Remember that we want to know about present and recent complaints, not those that you had in the past.

Have you recently

been feeling perfectly well and in good health?	Better than usual	Same as usual	Worse than usual	Much worse than usual
been feeling in need of a good tonic?	Not at all	No more than usual	Rather more than usual	Much more than usual
been feeling run down and out of sorts?	Not at all	No more than usual	Rather more than usual	Much more than usual
felt that you are ill?	Not at all	No more than usual	Rather more than usual	Much more than usual
been getting any pains in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
been getting a feeling of tightness or pressure in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
been having hot or cold spells?	Not at all	No more than usual	Rather more than usual	Much more than usual
lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
had difficulty in staying asleep once you are off?	Not at all	No more than usual	Rather more than usual	Much more than usual

Have you recently

felt constantly under strain?

Not
at all

No more
than usual

Rather more
than usual

Much more
than usual

**been getting edgy and
bad-tempered?**

Not
at all

No more
than usual

Rather more
than usual

Much more
than usual

**been getting scared or panicky
for no good reason?**

Not
at all

No more
than usual

Rather more
than usual

Much more
than usual

**found everything getting on
top of you?**

Not
at all

No more
than usual

Rather more
than usual

Much more
than usual

been feeling nervous and

Not

No more

Rather more

Much more **strung up**

**been managing to keep yourself
busy and occupied?**

More so
than usual

Same
as usual

Rather less
than usual

Much less
than usual

**been taking longer over the things
you do?**

Quicker
than usual

Same
as usual

Longer
than usual

Much longer
than usual

**felt on the whole you were doing
things well?**

Better
than usual

About
the same

Less well
than usual

Much
less well

**been satisfied with the way
you've carried out your task?**

More
satisfied

About same
as usual

Less satisfied
than usual

Much less
satisfied

**felt that you are playing a useful
part in things?**

More so
than usual

Same
as usual

Less useful
than usual

Much less
useful

**felt capable of making decisions
about things?**

More so
than usual

Same
as usual

Less so
than usual

Much less
capable

**been able to enjoy your normal
day-to-day activities?**

More so
than usual

Same
as usual

Less so
than usual

Much less
than usual

Have you recently

been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
felt that life is entirely hopeless?	Not at all	No more than usual	Rather more than usual	Much more than usual
felt that life isn't worth living?	Not at all	No more than usual	Rather more than usual	Much more than usual
thought of the possibility that you might make away with yourself?	Definitely not	I don't think so	Has crossed my mind	Definitely have
found at times you couldn't do anything because your nerves were too bad?	Not at all	No more than usual	Rather more than usual	Much more than usual
found yourself wishing you were dead and away from it all?	Not at all	No more than usual	Rather more than usual	Much more than usual
found that the idea of taking your own life kept coming into your mind?	Definitely not	I don't think so	Has crossed my mind	Definitely has

STRESS SCALE FOR MENTAL HEALTH PROFESSIONALS

Please read this carefully.

We would like to know if you have felt any of the difficulties below, *over the past few weeks*. Please answer ALL the questions. Please read the questions below and each of the four possible answers. Choose the answer that best applies to you by placing an x in the grey box.

Remember that we want to know about how things are currently and not the past.

Too much work to do

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Too many different things to do

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Not enough time to complete all tasks satisfactory

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Too many clients/patients

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Working too long hours

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Not enough time for recreation

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Terminating with clients/patients

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Dealing with death or suffering

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

No change or slowness or change in clients/patients

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Difficult and/or demanding clients/patients

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Physically threatening clients/patients

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Managing therapeutic relationships

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Lack of support from management

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Relationship with line manager

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Communication and flow of information at work

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Poor management and supervision

Does not apply to me Applies to me a little Applies to me a lot Applies to me

The way conflicts are resolved in the organisation

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Organisational structure and policies

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Conflict with other profession (e.g. doctor, nurse)

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Conflicting roles with other professional

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Working in a multidisciplinary team

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Criticism by other professional (e.g. doctor, nurse)

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Lack of emotional support from colleagues

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Difficulty of working with certain colleagues

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Lack of adequate staffing

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Lack of financial resources for training courses/workshops

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Shortage of adequate equipment/supplies

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Lack of adequate cover in potentially dangerous environment

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Inadequate clerical/technical back-up

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Poor physical working conditions

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Feeling inadequately skilled for dealing with emotional needs of clients/patients

Does not apply to me	Applies to me a little	Applies to me a lot	Applies to me
----------------------	------------------------	---------------------	---------------

Uncertainty about own capabilities

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Feeling inadequately skilled for dealing with difficult clients/patients

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Doubt about the efficacy of therapeutic endeavours

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Keeping professional/clinical skill up to date

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Fear of making a mistake over a client/patient's treatment

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Not enough time with family

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Inability to separate personal from professional role

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Taking work home

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Relationship with spouse/partner affects work

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Work emphasises feelings of emphasis and/or isolation

Does not apply to me Applies to me a little Applies to me a lot Applies to me

Inadequate time for friendship/social relationships

Does not apply to me Applies to me a little Applies to me a lot Applies to me

DISPOSITIONAL RESILIENCE SCALE-15

Please read this carefully.

Below are statements about life that people often feel differently about. Please show how much you think each one is true about you. Please answer ALL the questions. Please read the questions below and each of the four possible answers. Choose the answer that best applies to you by placing an x in the grey box.

There are no right or wrong answers.

Most of my life gets spent doing things that are meaningful

Not at all true	A little true	Quite true	Completely true
-----------------	---------------	------------	-----------------

By working hard you can nearly always achieve your goals

Not at all true	A little true	Quite true	Completely true
-----------------	---------------	------------	-----------------

I don't like to make changes in my regular activities

Not at all true	A little true	Quite true	Completely true
-----------------	---------------	------------	-----------------

I feel like my life is somewhat empty of meaning

Not at all true	A little true	Quite true	Completely true
-----------------	---------------	------------	-----------------

Changes in my routine are interesting to me

Not at all true	A little true	Quite true	Completely true
-----------------	---------------	------------	-----------------

How things go in my life depends on my own actions

Not at all true	A little true	Quite true	Completely true
-----------------	---------------	------------	-----------------

I really look forward to my work activities

Not at all true	A little true	Quite true	Completely true
-----------------	---------------	------------	-----------------

I don't think there is much I can do to influence my own future

Not at all true	A little true	Quite true	Completely true
-----------------	---------------	------------	-----------------

I enjoy the challenge when I have to do more than one thing at a time

Not at all true	A little true	Quite true	Completely true
------------------------	----------------------	-------------------	------------------------

Most days, life is really interesting and exciting for me

Not at all true	A little true	Quite true	Completely true
------------------------	----------------------	-------------------	------------------------

It bothers me when my daily routine gets interrupted

Not at all true	A little true	Quite true	Completely true
------------------------	----------------------	-------------------	------------------------

Not at all true	A little true	Quite true	Completely true
------------------------	----------------------	-------------------	------------------------

It is up to me to decide how the rest of my life will be

Not at all true	A little true	Quite true	Completely true
------------------------	----------------------	-------------------	------------------------

Life in general boring for me

Not at all true	A little true	Quite true	Completely true
------------------------	----------------------	-------------------	------------------------

I like having a daily schedule that doesn't change very much

Not at all true	A little true	Quite true	Completely true
------------------------	----------------------	-------------------	------------------------

My choices make a real difference in how things turn out in the end

Not at all true	A little true	Quite true	Completely true
------------------------	----------------------	-------------------	------------------------

CLINICAL PSYCHOLOGY INVENTORY

Please read this carefully.

This questionnaire is designed to help us to get a better understanding of how trainees feel about some of the things that can be difficult during clinical training.

Please rate your degree of confidence in performing each task on the list by recording a number against each item between 0 and 100, based on the scale below:

0	10	20	30	40	50	60	70	80	90	100
Definitely					Moderately					Definitely
cannot					certain I					can do
do this					can do this					this

Clinical work	Confidence (0-100)
Work effectively with a service user group you've not worked with before	
Work effectively with someone who has a type of difficulty that you've not worked with before	
Work effectively using a therapeutic model that is new to you	
Work effectively using a therapeutic model that doesn't suit your preferred style	
Gain access to resources that will help you work effectively clinically	
Work effectively in a placement setting that uses a service delivery process that is new to you e.g. a fixed number of sessions or a consultancy model	
Manage time pressures on placement	
Complete administration tasks associated with your clinical work on time	
Maintain a working relationship with your supervisor even when you don't agree with his/her recommendations about clients	
Tell your supervisor when you need more support than they are offering	
Resolve situations where what your placement supervisor is offering offers doesn't match your learning needs	
Enlist your supervisor's help when you feel 'stuck' with a client	
Cope with the emotional impact of working with people in distress	
Meet the requirements for passing placements	
Academic work	
Get assignments in on time	
Get clarification about what is required in order to pass your assignments	
Get clarification about what is required in order to pass your thesis	
Meet the academic requirements of course assignments	
Meet the academic requirements of the thesis	
Complete your assignment when the requirements of the report differ to the requirements of the service where you are on placement	
Access the advice or learning resources you need in order to successfully complete quantitative or qualitative data analysis	
Feel comfortable talking to course staff about your academic performance	
Tell course staff when you need more support with an academic assignment than is being offered	
Tell your research supervisor when you need more support for your thesis than is being offered	
Cope with the emotional impact of lecture/workshop material	
Cope with the emotional impact created by the academic demands of the course	

General aspects of the course	
Get rid of feelings of self doubt when thinking about living up to your peer group	
Cope with the overall emotional impact that the course has on you	
Maintain an appropriate home/work life balance whilst on the course	
Successfully balance the demands of placement and academic work	
Get your family to understand what the demands of clinical training are	
Get support from your family in times of stress related to the course	
Access other sources of emotional support when you need it	
Prioritise sufficient time for self-care	
Manage the travelling requirements of the course	

There are no right or wrong answers.

Thank you for your cooperation and time

Please confirm that you give consent for your responses to be submitted

Yes

No

Third party support services will be listed here after discussion with individual courses

Appendix 2.2

Questions for focus group

Questions aides for focus group to develop academic and clinical self-efficacy scales.

- What skills do you think are needed to balance the academic needs of the course?
- What obstacles are you faced with when working clinically with clients?
- How do you balance completing your clinical practise reports and doing your clinical work?
- What elements of the course would you change if you had the chance?
- What elements of the course make the demands placed upon you less stressful?
- What elements of the course make the demands placed upon you more stressful?
- What skills do you think are needed to balance the academic needs of the course with your personal life?
- What obstacles do you face in supervision?
- What obstacles are you faced with when the end of a clinical placement is approaching?
- What are the obstacles you are faced with changing clinical placements?

Appendix 2.3

Information sheet and consent form for focus group

Participation Information Sheet – Focus group (Development of scales)

Title of main project

How does hardiness and self-efficacy affect the relationship between stress and wellbeing in trainee clinical psychologists. A national study.

Hi, my name is Neha Pathak, I am a trainee Clinical Psychologist at the University of Birmingham. As part of my studies, I am carrying out a research project on the mediating affects of hardiness, self-efficacy on stress and wellbeing. Initially I have to develop two scales; one measuring clinical self-efficacy and one measuring academic self-efficacy. Before you decide if you want to take part in the focus group, please read this information leaflet. **Please note this information sheet will give details of the focus group and only a brief overview of the main study.**

If you have any worries or questions you can get in touch with me, or my supervisor on the numbers or address below.

Researcher: Neha Pathak, Trainee Clinical Psychologist

Supervisors: Theresa Powell (Associate Director)

Address: School of Psychology
University of Birmingham
Edgbaston
Birmingham
B15 2TT

Tel: [REDACTED]

Email: [REDACTED]

- **What is the purpose of this research?**

The main purpose of this research is to investigate if clinical psychology trainees experience stress in relation to their training and the impact this has on wellbeing. Additionally, I am interested in the relationship between, hardiness, stress and wellbeing and the relationship between academic and clinical self-efficacy, stress and well being.

- **Why have I been invited to take part?**

You have been invited because, as a [REDACTED] you have relevant experience pertaining to the question under study.

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

It is your decision whether or not you take part. If you decide to take part you are still free to change your mind and withdraw at any time during the focus group without giving a reason.

- **What will happen to me if I agree to take part?**

You will be asked to attend a focus group at a your university in a place convenient to you. Tea and coffee will be provided. The focus group will then take place and will last for approximately 40-50 minutes. During the group we will discuss the challenges you face with the academic and clinical components of the course. From these responses themes will be generated from the researcher and questionnaires will be developed. The focus group will be recorded via Dictaphone.

- **What will happen if I don't want to carry on with the study?**

If you change your mind about taking part during the group you can leave at any time. If you decide after the focus group you want your responses to be removed you have up to three weeks to have your data withdrawn.

- **What will happen if the focus group leaves me feeling upset?**

It is very unlikely that you will feel upset after the focus group. However, once the focus group has finished you will be offered a ten minute de-brief session with myself. Details will also be provided for third party services for you to contact if you feel the need. These services will be recommended by the course, i.e. therapy network.

- **How will my responses remain anonymous?**

Only when signing the consent form will you be asked your name and to confirm that you are a .

Your name will not be linked from your consent form with the data collected in the focus group a participant code will be given to you and will be used for the transcript.

- **Will anyone else know what we talked about?**

I will be the only person who listens to the audio recording. The transcripts may be read by my supervisor and by other members of the research team investigating the area. They may also been seen by officials authorised by the university to check the research is being conducted properly. The final report that I write, together with any academic papers or presentations, will contain quotes from the focus groups to demonstrate how the final scales were developed. All quotes will be anonymous.

What will happen to the data from the focus group?

The data will be analyzed using thematic analysis (Braun & Clarke, 2006), themes will be generated. These themes will then lead to scale development.

- **What will happen to the data from the focus group once the scales have been developed?**

Initially all audio data will be kept on the Dictaphone which will be stored in a cabinet at the University of Birmingham in line with data protection policy. Transcription of data will take place at the university in a private room. Once the transcript is completed, the audio

recording will be destroyed. The paper version of the transcripts will be stored in a locked cabinet when not in use. An electronic version will also be stored on the university server which will be password protected.

University regulations require that the consent forms and a paper copy of the transcripts are kept for 10 years by the university supervisor. After this time has expired, these will be destroyed.

- **What are the benefits of taking place?**

Your input will help in the development of two new scales to measure academic and clinical self-efficacy. Taking part may not benefit you personally but the main project may help to identify whether hardiness and self efficacy are important factors in training. If they are, courses may be able to work on ways of promoting this.

- **Where can I obtain further information?**

If you would like further information about the research, please contact Neha Pathak (email: [REDACTED]) or her supervisor, Dr Theresa Powell (email: [REDACTED]).

December 2010

CONSENT FORM

How does hardiness and self-efficacy affect the relationship between stress and wellbeing trainee clinical psychologists. A national study.

Focus group- development of scale for academic and clinical self-efficacy

Researcher: Neha Pathak

Please tick box

1. I confirm that I have understood the information sheet dated December 2010 (version 1) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time during the focus group, without giving any reason, and without my participation in the main study being affected. ☐
3. I give permission for the be audio-recorded ☐
4. I understand that the data collected during this study will be looked at by the researcher and relevant others at the University of Birmingham to ensure that the analysis is a fair and reasonable representation of the data. ☐
5. I confirm that I am a ☐
6. I agree to take part in the above study. ☐

.....
Name of participant Date Signature

.....
Name of researcher Date Signature

If you would like to be sent a summary of the study, please tick here ☐

write down your name and email address here:

.....

Appendix 2.4

Final template

Priori themes & Initial template

Clinical	Supervision issues	Models Relationships Expectations Teaching
	Opportunities for CPD	Clinical & Appraisal tutors
	Feeling vulnerable	Time Training Reading
	Service related	Not knowing New client group Don't agree Lack of knowledge Supervision Not competency based
Academic	Academic assignments CPR & Thesis Tutors	Time Life responsibilities Just passing Statistics
		Support Not being available
Personal	Emotions Self-care	Partners Tutors Overworked Placement Guilt Feeling stressed
		Personal therapy Self-indulgent

Final template

Clinical	<p>1. New client group</p> <p>2. Unfamiliar models</p> <p>3. Busy placement</p> <p>4. Supervision</p>	<ul style="list-style-type: none"> • Not enough time to read around difficulties or appropriate intervention • Not observed enough of supervisors work • Not yet received appropriate teaching for this client group • Not experienced working with that particular client group previously • Not familiar with the clinical setting on placement i.e. community based work <ul style="list-style-type: none"> • Not enough time to prepare and read • Have to use your supervisors preferred model • Using models which don't fit own way of working • No opportunity for further training on placement • Using unfamiliar models when under service constraints i.e. providing 8-12 sessions only <ul style="list-style-type: none"> • Overwhelming • Lack of resources • Too many admin tasks <ul style="list-style-type: none"> • Talk to supervisor openly-don't agree with their recommendations • Placement fitting "supervisors" need and not what "I" need • Not supportive • Not supportive in providing resources when feeling stuck with clinical work • Comparisons to previous trainees • Not enough time for supervision
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Academic	<p>1. CPR'S</p> <p>2. Analysis</p> <p>3. Tutors</p>	<ul style="list-style-type: none"> • Not enough time given • Not understanding fully the task been asked to complete, e.g. single case • Needs of the CPR differing to the service needs where I am on placement • Inconsistent feedback from tutors • Not fitting in with your clinical practice • Feel like you have not had sufficient teaching • No idea how to do quantitative and qualitative analysis • Completing analysis for thesis • Finding them unsupportive • Limited advice and non-specific • Having to chase them • Arranging meetings
Personal	<p>1. Academic</p> <p>2. Clinical</p> <p>3. Coping with emotional demands</p>	<ul style="list-style-type: none"> • Worried how I will be perceived if I fail by family and peers • Having to be at the standard of your peers • How staff on the course perceive you if you are having difficulties • Struggling with emotions with lecture material • Not doing well enough • Feeling under experienced in comparison to peers • Feeling under experienced on placement • Balancing work and home life activities/pressures • Busy with placement and academic work • Talking to partners-people not understanding or knowing how to support you • Family not understanding the demands of the course • Feeling guilty burdening others

		<ul style="list-style-type: none"> • Accessing tutors /personal therapy for support • Access is limited to tutors and personal therapy • You need to make time for self care • Feeling isolated from family and friends • Tiredness from travelling

Appendix 2.5

Clinical Psychology Inventory

Clinical Psychology training inventory

This questionnaire is designed to help us to get a better understanding of how trainees feel about some of the things that can be difficult during clinical training.

Please rate your degree of confidence in performing each task on the list by recording a number against each item between 0 and 100, based on the scale below:

0	10	20	30	40	50	60	70	80	90	100
<i>Definitely cannot do this</i>					<i>Moderately certain I can do this</i>					<i>Definitely can do this</i>

Clinical work	Confidence (0-100)
Work effectively with a service user group you've not worked with before	
Work effectively with someone who has a type of difficulty that you've not worked with before	
Work effectively using a therapeutic model that is new to you	
Work effectively using a therapeutic model that doesn't suit your preferred style	
Gain access to resources that will help you work effectively clinically	
Work effectively in a placement setting that uses a service delivery process that is new to you e.g. a fixed number of sessions or a consultancy model	
Manage time pressures on placement	
Complete administration tasks associated with your clinical work on time	
Maintain a working relationship with your supervisor even when you don't agree with his/her recommendations about clients	
Tell your supervisor when you need more support than they are offering	
Resolve situations where what your placement supervisor is offering offers doesn't match your learning needs	
Enlist your supervisor's help when you feel 'stuck' with a client	
Cope with the emotional impact of working with people in distress	
Meet the requirements for passing placements	
Academic work	
Get assignments in on time	
Get clarification about what is required in order to pass your assignments	
Get clarification about what is required in order to pass your thesis	
Meet the academic requirements of course assignments	
Meet the academic requirements of the thesis	
Complete your assignment when the requirements of the report differ to the requirements of the service where you are on placement	
Access the advice or learning resources you need in order to successfully complete quantitative or qualitative data analysis	
Feel comfortable talking to course staff about your academic performance	
Tell course staff when you need more support with an academic assignment than is being offered	
Tell your research supervisor when you need more support for your thesis than is being offered	
Cope with the emotional impact of lecture/workshop material	
Cope with the emotional impact created by the academic demands of the course	
General aspects of the course	
Get rid of feelings of self doubt when thinking about living up to your peer group	

Cope with the overall emotional impact that the course has on you	
Maintain an appropriate home/work life balance whilst on the course	
Successfully balance the demands of placement and academic work	
Get your family to understand what the demands of clinical training are	
Get support from your family in times of stress related to the course	
Access other sources of emotional support when you need it	
Prioritise sufficient time for self-care	
Manage the travelling requirements of the course	

Appendix 2.6

Ethics form

[Not available in the digital version of this thesis]

Appendix 2.7

Ethics Letter

[Not available in the digital version of this thesis]

Appendix 2.8

Information and consent forms

Invitation to take part in a research study

Participation Information

Title of main project

How does hardiness and self-efficacy affect the relationship between stress and wellbeing in trainee clinical psychologists. A national study.

Hi, my name is Neha Pathak, I am a trainee Clinical Psychologist at the University of Birmingham. As part of my studies, I am carrying out a research project on the mediating affects of hardiness, self-efficacy on stress and wellbeing. We hope that the findings from this study will help us to understand if and how much clinical psychology trainees experience stress and how this impacts on wellbeing.

Before you decide if you want to take part in the study, please read the following information.

The main purpose of this research is to investigate if clinical psychology trainees experience stress in relation to their training and the impact this has on wellbeing. Additionally, I am interested in the relationship between, hardiness, stress and wellbeing and the relationship between academic and clinical self-efficacy, stress and well-being.

You are being invited to take part in this study as you are a [REDACTED]. Participation in this study is entirely voluntary. If you decided to take part in this study, you will be asked to complete a consent form, four questionnaires and some background information. Questionnaires, should only take 20-25 minutes to complete. Once you have read the on-line information sheet, an option box will appear asking you to consent to taking part in the study. If you click "yes" you will be directed to the questionnaires. Once you have completed the questionnaires you will be asked for your consent a second time before your questionnaires are submitted. The University of Birmingham server, which is being used to collect data is a safe and secure method.

All responses will be anonymous, there will be no personal identifiable information that will identify you. Please note once you have completed your questionnaires and given consent for them to be submitted you will be given a date stamp and number, please note this down and keep it safe. This information will be needed if you decide you want to withdraw your data from the study. You are free to withdraw from the study at any point up to the point of data analysis by emailing the researcher and you do not have to give any reason.

Once your responses have been submitted, this will be sent directly back to the researcher. This information will only be accessible via password and will be stored on the university server only. All data analysis will take place at the university. Data will only be seen by the main researcher and the university supervisor. University regulations require that all consent forms and a paper copy of the data collected are kept for ten years by the university supervisor. After this time period data will be destroyed.

Once the research has been completed all courses involved in the research will be provided with a public document highlighting the main findings.

It is very unlikely that you will feel upset after completing the questionnaires. However, once you have submitted your questionnaires details will also be provided for third party services for you to contact if you feel the need. These sources of support will be recommended after liaison with course staff about their current support services, i.e. therapy network.

If you would like further information about the research, please contact Neha Pathak (email:) or her supervisor, Dr Theresa Powell (email:).

Consent form

Study title: How does hardiness and self-efficacy affect the relationship between stress and wellbeing in trainee clinical psychologists. A national study.

Please place an x in the grey box to confirm that you have read and understood the information about the above information.

Please place an x in the grey box to confirm you agree to participate in the above study.

(once you have confirmed, questionnaires will be shown)

Background information

Please read all the questions and tick the box that applies to you by double clicking in the grey area and choosing checked from the menu.

Gender: Male Female

Please tell us your age in years by positioning your cursor in the grey box and typing:

Please confirm you are a Trainee Clinical Psychologist

Yes

Before you started clinical training, please state how many years experience you had of working in a clinical population

Years Months

Before you started training, please tick at what academic level you had completed research at

Undergraduate

Masters

PhD

I consent to taking part in the above study

Yes

No

Appendix 2.9

Anova results

ANOVA

Within-Subjects Factors

Measure: MEASURE_1

factor1	Dependent Variable
1	MHsub1
2	MHsub2
3	MHsub3
4	MHsub4
5	MHsub5
6	MHsub6
7	MHsub7

Descriptive Statistics

	Mean	Std. Deviation	N
MHsub1	2.3003	.60721	116
MHsub2	1.9339	.53473	116
MHsub3	1.6351	.63699	116
MHsub4	1.5158	.53972	116
MHsub5	1.4971	.53251	116
MHsub6	2.0460	.58052	116
MHsub7	1.8908	.65316	116

Multivariate Tests^b

Effect		Value	F	Hypothesis df	Error df	Sig.
factor1	Pillai's Trace	.712	45.293 ^a	6.000	110.000	.000
	Wilks' Lambda	.288	45.293 ^a	6.000	110.000	.000
	Hotelling's Trace	2.471	45.293 ^a	6.000	110.000	.000
	Roy's Largest Root	2.471	45.293 ^a	6.000	110.000	.000

Mauchly's Test of Sphericity^b

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^a	
					Greenhouse-Geisser	Huynh-Feldt

factor1	.452	89.525	20	.000	.749	.78
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Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to
a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Between-Subjects Effects table.

b. Design: Intercept

Within Subjects Design: factor1

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
factor1	Sphericity Assumed	61.460	6	10.243	46.147	.000
	Greenhouse-Geisser	61.460	4.495	13.672	46.147	.000
	Huynh-Feldt	61.460	4.701	13.074	46.147	.000
	Lower-bound	61.460	1.000	61.460	46.147	.000
Error(factor1)	Sphericity Assumed	153.159	690	.222		
	Greenhouse-Geisser	153.159	516.969	.296		
	Huynh-Feldt	153.159	540.596	.283		
	Lower-bound	153.159	115.000	1.332		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
factor1	Level 1 vs. Level 7	19.450	1	19.450	70.711	.000
	Level 2 vs. Level 7	.216	1	.216	.434	.511
	Level 3 vs. Level 7	7.587	1	7.587	11.511	.001
	Level 4 vs. Level 7	16.312	1	16.312	35.437	.000
	Level 5 vs. Level 7	17.978	1	17.978	35.496	.000
	Level 6 vs. Level 7	2.793	1	2.793	4.732	.032
Error(factor1)	Level 1 vs. Level 7	31.633	115	.275		
	Level 2 vs. Level 7	57.062	115	.496		
	Level 3 vs. Level 7	75.802	115	.659		
	Level 4 vs. Level 7	52.938	115	.460		
	Level 5 vs. Level 7	58.244	115	.506		
	Level 6 vs. Level 7	67.874	115	.590		

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	389.016	1	389.016	2552.000	.000
Error	17.530	115	.152		

Estimates

Measure: MEASURE_1

factor1	Mean	Std. Error	99% Confidence Interval	
			Lower Bound	Upper Bound
1	2.300	.056	2.153	2.448
2	1.934	.050	1.804	2.064
3	1.635	.059	1.480	1.790
4	1.516	.050	1.385	1.647
5	1.497	.049	1.368	1.627
6	2.046	.054	1.905	2.187
7	1.891	.061	1.732	2.050

Pairwise Comparisons

Measure: MEASURE_1

(I) factor1	(J) factor1	Mean Difference (I-J)	Std. Error	Sig. ^a	99% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
1	2	.366 [*]	.066	.000	.130	.603
	3	.665 [*]	.075	.000	.394	.937
	4	.784 [*]	.065	.000	.552	1.017
	5	.803 [*]	.062	.000	.580	1.027
	6	.254	.073	.015	-.009	.518
	7	.409 [*]	.049	.000	.234	.585
2	1	-.366 [*]	.066	.000	-.603	-.130
	3	.299 [*]	.060	.000	.084	.514
	4	.418 [*]	.053	.000	.228	.608
	5	.437 [*]	.057	.000	.232	.641
	6	-.112	.057	1.000	-.316	.092
	7	.043	.065	1.000	-.192	.278

3	1	-.665 ⁺	.075	.000	-.937	-.394
	2	-.299 ⁺	.060	.000	-.514	-.084
	4	.119	.049	.328	-.055	.294
	5	.138	.056	.325	-.064	.340
	6	-.411 ⁺	.062	.000	-.633	-.189
	7	-.256	.075	.020	-.527	.015
4	1	-.784 ⁺	.065	.000	-1.017	-.552
	2	-.418 ⁺	.053	.000	-.608	-.228
	3	-.119	.049	.328	-.294	.055
	5	.019	.048	1.000	-.153	.191
	6	-.530 ⁺	.057	.000	-.736	-.324
	7	-.375 ⁺	.063	.000	-.602	-.148
5	1	-.803 ⁺	.062	.000	-1.027	-.580
	2	-.437 ⁺	.057	.000	-.641	-.232
	3	-.138	.056	.325	-.340	.064
	4	-.019	.048	1.000	-.191	.153
	6	-.549 ⁺	.059	.000	-.761	-.337
	7	-.394 ⁺	.066	.000	-.631	-.156
6	1	-.254	.073	.015	-.518	.009
	2	.112	.057	1.000	-.092	.316
	3	.411 ⁺	.062	.000	.189	.633
	4	.530 ⁺	.057	.000	.324	.736
	5	.549 ⁺	.059	.000	.337	.761
	7	.155	.071	.665	-.101	.412
7	1	-.409 ⁺	.049	.000	-.585	-.234
	2	-.043	.065	1.000	-.278	.192
	3	.256	.075	.020	-.015	.527
	4	.375 ⁺	.063	.000	.148	.602
	5	.394 ⁺	.066	.000	.156	.631
	6	-.155	.071	.665	-.412	.101

Based on estimated marginal means

Appendix 2.10

Details for publication

[Not available in the digital version of this thesis]