



## Therapist effects and IAPT Psychological Wellbeing Practitioners (PWPs): A multilevel modelling and mixed methods analysis



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### ABSTRACT

The aim of this research was (a) to determine the extent of therapist effects in Psychological Wellbeing Practitioners (PWPs) delivering guided self-help in IAPT services and (b) to identify factors that defined effective PWP clinical practice. Using patient ( $N = 1122$ ) anxiety and depression outcomes (PHQ-9 and GAD-7), the effectiveness of  $N = 21$  PWPs across 6 service sites was examined using multi-level modelling. PWPs and their clinical supervisors were also interviewed and completed measures of ego strength, intuition and resilience. Therapist effects accounted for around 9 per cent of the variance in patient outcomes. One PWP had significantly better than average outcomes on both PHQ-9 and GAD-7 while 3 PWPs were significantly below average on the PHQ-9 and 2 were below average on the GAD-7. Computed PWP ranks identified quartile clusters of the most ( $N = 5$ ) and least ( $N = 5$ ) effective PWPs. More effective PWPs generated higher rates of reliable and clinically significant change and displayed greater resilience, organisational abilities, knowledge and confidence. Study weaknesses are identified and methodological considerations for future studies examining therapist effects in low intensity cognitive behaviour therapy are provided.

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### Introduction

In recent years the landscape of psychological services in the UK has been transformed with the introduction of the Improving Access to Psychological Therapies (IAPT) programme. IAPT was introduced in response to the Depression Report (Layard et al., 2006), which detailed the personal and societal cost of the lack of access to evidence-based psychological therapies for people experiencing common mental health problems (depression and anxiety disorders). Nascent IAPT organisational models were initially tested in two demonstration sites from 2006, with effective results (Clark et al., 2009; Parry et al., 2011). Subsequently, IAPT was rolled out nationally in the UK from 2008 (Care Services and Improvement Partnership Choice & Access Team, 2008; Improving Access to Psychological Therapies, 2008). A central feature of IAPT services is the availability and delivery of treatments consistent with the National Institute for Health and Clinical Excellence (NICE) guidelines for depression and anxiety (Clark, 2011). NICE recommends the provision of stepped-care service delivery models for the

treatment of mild-moderate depression and anxiety disorders (excluding PTSD and social anxiety disorder).

Stepped care entails the availability of increasingly intense psychological treatments that are delivered sequentially, driven by regular outcome monitoring and matched to patient need (Bower & Gilbody, 2005). Therefore in IAPT services a substantial proportion of patients initially receive brief and 'low intensity' treatments (e.g., guided self-help or psychoeducational classes), delivered at step 2. PWP interventions typically consist of six to eight 30–35 min sessions. Those patients who fail to respond are subsequently stepped up to more traditional face-to-face and longer duration 'high intensity' psychological therapies, delivered at step 3. Stepping up and down aims to ensure the seamless transition of patients to and from Primary and Secondary Care services according to need and responsiveness to treatment (Care Services and Improvement Partnership Choice and Access Team, 2008). Although the exact configurations of IAPT services differ (Gyani, Shafron, Layard, & Clark, 2013), many have extended the range of therapies offered to patients with anxiety and depression across both Primary and Secondary Care.

To enable access to treatment, the IAPT initiative has depended on recruiting a new mental health workforce (Robinson, Kellett, King, & Keating, 2012) and a key workforce development has

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been the creation of the Psychological Wellbeing Practitioner (PWP) role. This ensures service provision at step 2, with practitioners completing assessments and delivering brief and low intensity treatments to patients with mild to moderate anxiety and depression (CSIP, 2008). To qualify, PWPs complete a 1-year Post-Graduate Certificate that is driven by a national curriculum (Richards & Whyte, 2009), in order to ensure consistency of service delivery. Trainee PWPs are employed by IAPT services and spend one day per week in their academic base and four days per week in service, assessing and treating patients under close clinical and case management supervision. Academic assessment is competency driven and consists largely of observed structured clinical exams that assess fidelity to manualised low intensity assessment and treatments (Richards & Whyte, 2009).

Work at step 2 is therefore characterised by its 'low contact-high volume' approach (Clark et al., 2009). PWPs receive 1 h per week of IT-driven case management supervision using outcomes from the IAPT minimum dataset to ensure high volume and regular clinical supervision to ensure low contact (i.e., fidelity to brief and low intensity interventions). The core rationale of low intensity work is explicitly cognitive-behavioural in origin, but with the PWP role being that of a 'coach' as opposed to traditional therapist (Turpin, 2010). Therefore PWPs can also use non-traditional methods such as a telephone delivery and e-clinics (alongside one-to-one and group psychoeducational sessions) to deliver the seven core self-help treatment protocols that constitute the PWP clinical method (Richards & Whyte, 2009). Due to the relatively recent introduction of PWPs, there is a paucity of research on PWPs in general and no extant research regarding potential therapist effects. This is despite PWPs increasing in numbers and the organisational prominence of the role (Improving Access to Psychological Therapies, 2012).

#### *Therapist effects: trials and routine practice*

Within the broader psychological therapies literature, there are differing, sometimes opposing, views on the issue of whether therapist effects are a significant factor accounting for patient outcomes. In addition, there is also a range of methodological issues that arise when considering therapist effects. In terms of substantive findings, differences in effectiveness between therapists have been reported in some RCTs (e.g., Huppert, Bufka, Barlow, Gorman, & Shear, 2001), while others have reported small or non-significant effects (e.g., Clark et al., 2006; Wilson, Wilfley, Agras, & Bryson, 2011). These conflicting results are exemplified in two independent analyses of the same data, drawn from the National Institute for Mental Health's Treatment of Depression Collaborative Research Project (NIMH TDCRP; Elkin et al., 1989). Using the same data, but employing differing analytic techniques, one group of researchers found a significant therapist effect (Kim, Wampold, & Bolt, 2006), whilst another group reported no therapist effect (Elkin, Falconnier, Martinovich, & Mahoney, 2006). These conflicting findings have been attributed to differences in the analytical methods employed and the small number of therapists involved (Crits-Christoph & Gallop, 2006; Soldz, 2006). Thompson et al. (2012) provided guidance on investigating therapist effects within trials, with particular emphasis on smaller sized trials.

In contrast to the results from RCTs, naturalistic studies drawing on data from routine practice have tended to indicate 5%–8% of the variance in outcomes can be attributed to therapists (e.g., Baldwin & Imel, 2013; Brown, Lambert, Jones, & Minami, 2005; Lutz, Scott, Martinovich, Lyons, & Stiles, 2007; Okiishi et al., 2006; Saxon & Barkham, 2012). In a context where therapy is being delivered in routine practice and therapists may not be implementing protocol-driven interventions, the resulting variability in therapist effects appears understandable. The IAPT initiative provides the setting for

the unique integration of both evidenced-based protocol-driven interventions and the delivery of these protocols during routine practice. It might be expected that the extent of variability in PWPs within IAPT services would therefore be limited. Accordingly, this sample was the focus of the current study.

#### *Therapist effects: methodological issues*

Where a hierarchical structure exists (i.e. the outcomes for patients seen by the same practitioner are likely to be similar in some way and different from the outcomes for patients seen by another practitioner), multi-level modelling (MLM) is advocated as an appropriate method for assessing higher level (in this case, PWP) effects (Goldstein & Spiegelhalter, 1996; Raudenbush & Bryk, 2002; Wampold & Brown, 2005). MLM allows for the partitioning of the total outcome variance between level 1 (patient level) and level 2 (PWP level) with the proportion of total variance at level 2 equating to the therapist effect (Raudenbush & Bryk, 2002; Wampold & Brown, 2005). MLM has been extensively used in other research arenas, most notably in the study of comparative effectiveness of schools, where pupils are nested within teachers or classes, which are in turn nested within schools (Goldstein & Spiegelhalter, 1996). Recent studies of higher intensity treatments in psychological therapy services have also used MLM to estimate therapist effects (e.g., Saxon & Barkham, 2012; Wampold & Brown, 2005).

It has been recommended that in MLM studies the N of therapists is greater than 30 (e.g., Soldz, 2006) and this criterion has been a challenge in situations where only smaller numbers of therapists are available or sampled. For example, Wiborg, Knoop, Wensing, and Bleijenbergh (2012) reported a therapist effect of 21% with a sample of 10 practitioners, but recommended a further study with a larger sample. In contrast, Almlöv et al. (2011) found no practitioner effect during the delivery of internet therapy, but again cited lack of power as a contributing factor. One approach that takes into account sample size when producing effect estimates is the inclusion of confidence intervals around estimates. Therefore, in the present study, Markov Chain Monte Carlo (MCMC) procedures were adopted. This simulation-based procedure produces a very large number of estimates from which the median therapist effect can be derived, along with a 95% 'probability interval' (PrI) – analogous to 95% confidence intervals. Pre-treatment severity is strongly associated with outcome (Garfield, 1994) and once this is taken into account, other variables have little predictive value (Luborsky, McLellan, Diguier, Woody, & Seligman, 1997; Okiishi et al., 2006). Therefore, in the current study, patient pre-treatment severity was controlled for in the modelling.

#### *Components of effective practitioners*

Due to the large number of PWPs in clinical practice in IAPT services (Care Services and Improvement Partnership Choice & Access Team, 2008; Turpin, 2010), the uniqueness of the PWP clinical method (Richards & Whyte, 2009) and the high throughput of patients at step 2 (Parry et al., 2011), generation of knowledge concerning factors contributing to effective PWP practice is vital. Identifying factors that create or define the work of effective therapists (using higher intensity therapies) has previously proved difficult due to inherent methodological difficulties (Hubble, Duncan, & Miller, 1999). Studies have demonstrated that talking therapies can be effective whether the therapists are qualified professional therapists (e.g., Gibbons et al., 2010) or intern/trainees (e.g., Forand, Evans, Haglin, & Fishman, 2011). Research has either focussed on collated patient outcomes and whether variability between therapists exists (i.e., therapist effects) or on the features/characteristics of therapists themselves (e.g., Jennings & Skovholt,

1999; Najavits & Strupp, 1994). Relatively few studies have simultaneously studied both therapist effects and the features of the practitioners – this was therefore also an aim for the current study. Previous research has tended to be focal to traditional psychotherapy roles, characterised as working in a ‘high contact, low volume’ style (Clark et al., 2009).

Those studies that have focussed on therapist characteristics have reported a number of in-session and out-of-therapy factors related to more effective practice. In session aspects include enhanced relational skills (Jennings & Skovholt, 1999), greater empathy (Lafferty, Beutler & Crago, 1989), effective therapeutic alliances (Luborsky et al., 1985) and showing more warmth, affirmation, understanding, active helping and protecting (Najavits & Strupp, 1994). Such factors are pan-theoretical and are often referred to as common factors (Weinberger, 1993) – relying to some extent on therapist intuition (Welling, 2005). Whilst research into the mechanisms and use of clinical intuition is growing, whether intuition forms an aspect of effective practice remains somewhat untested (Rea, 2001; Welling, 2005). Given the nature of the coaching role that PWPs take up in relation to their patients when delivering guided self-help (Richards & Whyte, 2009), we hypothesised that higher levels of intuition would not be associated with better patient-reported outcomes.

Out-of-therapy factors associated with effective practitioners include good emotional adjustment (Luborsky et al., 1985), being self-critical of therapeutic actions (Najavits & Strupp, 1994), self-reflection (Jennings & Skovholt, 1999), and an emphasis on hard work and openness to feedback (Miller, Hubble, & Duncan, 2008). Two factors that may capture this quality of openness to learning are ego strength and resilience. Ego strength is defined as the ability to maintain a sense of self in the face of challenges without becoming overwhelmed (Markstrom, Sabino, Turner, & Berman, 1997). Resilience is defined as characteristics that enable coping during and bouncing back subsequently from adverse situations (Rutter, 1993). In light of the high clinical volume demands of the PWP role, we hypothesised that higher ego strength and resilience would be associated with better patient outcomes.

Accordingly, the present research aimed to utilise IAPT data with a sample of PWPs in routine practice to investigate (1) the extent of therapist effects when delivering guided self-help after controlling for pre-treatment severity, (2) the role of ego strength, resilience, and intuition in relation to patient outcomes, and (3) the factors that contribute to better patient outcomes. To meet the third aim we employed qualitative methods to contextualise the MLM results.

## Method

### Design

The study adopted a cross-sectional design comprising a volunteer sample of PWPs who completed their training in 2010 and subsequently worked within six IAPT services located across the North of England, UK. Four sources of information were collated and analysed: (1) anonymised electronic download data of patient outcomes routinely collected within their IAPT service; (2) PWP self-rated questionnaires of intuition, ego strength, and resilience; (3) interview data with PWPs focussing on style of work engagement; and (4) supervisor-rated questionnaire (intuition) and interview. The fourth data source derived from a supervisor perspective on individual PWPs' clinical and organisational practices. The design utilised a triangulated framework of effectiveness (patients, PWPs, and supervisors) contributing to a mixed methods approach to addressing the hypotheses. NHS ethical approval for the project was given by South Yorkshire Research Ethics

Committee (REC Reference: 10/H1310/56). Governance approval was also provided from all participating NHS trusts and organisations.

### Participants

#### *Psychological Wellbeing Practitioners (PWPs) and Supervisors*

Universities across the North of England who provided PWP training courses ( $N = 3$ ) were approached in order to identify potential PWP participants and their employing services. A total of 15 services were approached and invited to participate from which 9 agreed. Across these 9 services, all eligible PWPs were invited to participate ( $N = 47$ ) and  $N = 31$  agreed. Subsequently, 3 of the 9 services were unable to provide client outcome data due to technical difficulties with data retrieval and 2 PWPs withdrew. The final research sample therefore comprised  $N = 21$  PWPs (5 males and 16 females) employed in 6 IAPT services provided by NHS trusts ( $N = 4$ ), 3rd sector ( $N = 1$ ) or voluntary ( $N = 1$ ) organisations. The number of PWPs per service was 5, 5, 4, 3, 3 and 1. As all PWPs in the research sample had completed training in 2010, levels of clinical experience and subsequent time in the PWP role were consistent.

Participants had a mean of 3.5 years of previous experience of working in mental health settings, with a range of 0–17 years. Previous employment settings was varied and comprised community, inpatient and forensic settings across the roles of Support Worker, Mental Health Nurse, Assistant Psychologist, Occupational Therapist (OT), and voluntary positions. Fourteen of the 21 participants had studied undergraduate psychology, of whom 3 also had attended a counselling course and a further 3 had attended brief CBT training. Of the remaining 7 PWPs, 2 had previous core mental health professional training (nurse or OT), 4 had no formal training other than statutory mandatory training or a 2-day course, and 1 had attended a counselling course.

Participants had a mean age of 29.91 years ( $SD = 7.6$  years, range 23–52 years) and treated a mean of 53.55 patients in the study period, from when they started in their service to the end of February 2011, ranging from 8 to 197 patients. The mean age of patients on each PWP's caseload ranged from 36 to 46 years. After two reminders, 17 (81%) supervisors participated in an interview about their supervisees' approaches to work and completed a questionnaire relating to their PWP supervisee.

### Patients

Routinely collected, anonymised patient data was obtained from electronic downloads from the participating IAPT services, with outcome data comprising closed cases and in-treatment cases. Outcomes were included in the research data set when (1) patients had attended at least two sessions that included a pre-treatment assessment, (2) patients had completed the IAPT minimum dataset at the first and last session attended, and (3) treatment was delivered in a one-to-one format.

Complete datasets were obtained for 1122 patients with a mean age of 41 years ( $SD = 14.23$  years, range = 16–92 years). Females comprised 64.7% of the sample. In terms of ethnicity, 65.8% identified themselves as Caucasian, 2.8% as Asian, 0.7% as Black Caribbean or African and 1.1% as mixed race. Ethnicity information was not available for 29.3% of the sample. In terms of treatment duration, patients received a mean of 5 sessions ( $SD = 2.88$  sessions; range 2–21).

### Measures

PWPs, supervisors and patients completed differing batteries of measures. These are outlined below.

#### PWP measures and interview

**Ego strength.** The Psychosocial Inventory of Ego Strengths measures ego strength (PIES; Markstrom, Sabino, Turner, & Bergman, 1997). The PIES comprises 64 items summed to give a total ego strength score. The PIES has been shown to have good internal consistency ( $\alpha = 0.94$ ; Markstrom et al., 1997) and good construct validity (Markstrom & Marshall, 2007). Example PIES item: “I have strengths that enable me to be effective in certain situations”.

**Intuition.** The Rational-Experiential Inventory measures intuition (REI; Pacini & Epstein, 1999). The REI assesses an individual's preference for either rational or experiential cognition (20-item scales each). The two REI scales have good internal consistency (rationality  $\alpha = 0.90$ , experientiality  $\alpha = 0.87$ ; Pacini & Epstein, 1999) and test-retest reliability (rationality  $r = 0.76$ , experientiality  $r = 0.83$ ; Handley, Newstead, & Wright, 2000). Example rationality item: “I have a logical mind” and example experiential item: “I believe in trusting my hunches”.

**Resilience.** The Connor-Davidson Resilience Scale measured resilience (CD-RISC; Connor & Davidson, 2003). This 25-item measure is summed to provide a total resilience score. The CD-RISC has good internal consistency ( $\alpha = 0.89$ ; Connor & Davidson, 2003) and test-retest reliability ( $r = 0.87$ ; Connor & Davidson, 2003). Example item: “Under pressure, I stay focused and think clearly”.

**Interview schedule.** The PWP interview schedule was developed based on the Jennings and Skovholt (1999) qualitative study of traditional ‘high contact low volume’ therapists. Four of the questions from the Jennings and Skovholt (1999) schedule were included in the initial schedule for this study, such as “what is particularly therapeutic about you?” These were adapted and revised based on feedback from pilot interviews ( $N = 3$ ) and on the specific requirements of the PWP role.

#### Supervisor measure and interview

**Intuition.** Supervisors completed the Rational-Experiential Inventory (REI; Pacini & Epstein, 1999). As the focus was on their named PWP supervisee rather than them as supervisors, the questions were re-worded and framed in the 3rd person (i.e., “the supervisee has a logical mind”). As the REI was designed for a self-report, reliability and validity data cannot be directly transferred or assumed.

**Interview schedule.** The interview schedule for supervisors was again developed on the Jennings and Skovholt (1999) format, but this time adapted for the specifics of a supervisory role. Four of the original interview questions were included in the original supervisor schedule such as “what distinguishes a good therapist from a great therapist?” (NB: the term *therapist* changed to *PWP*). The questions were adapted and revised based on feedback from a pilot interview, to specifically tap into supervisor perceptions of PWP performance.

#### Patient measures

**Patient Health Questionnaire-9 (PHQ-9).** The PHQ-9 identifies ‘cases’ at screening and measures intensity of depression. Caseness is defined as a score of 10 or more, which indicates presence of depression (Kroenke, Spitzer, & Williams, 2001). The PHQ-9 has high sensitivity (92%) and specificity (80%) when using the cut-off score (Gilbody, Richards, Bready, & Hewitt, 2007). The measure also has good construct validity and internal reliability ( $\alpha = 0.89$ ; Kroenke et al., 2001).

**Generalised Anxiety Disorder (GAD-7).** The GAD-7 identifies ‘cases’ at screening and measures intensity of anxiety. A cut-off score of 8 indicates clinically relevant anxiety (Spitzer, Kroenke, Williams, & Lowe, 2006). The GAD-7 has good sensitivity (98%) and specificity (82%) (Gilbody, Richards, Bready, & Hewitt, 2007) and good construct validity, internal consistency ( $\alpha = 0.92$ ) and test-retest reliability ( $r = 0.83$ ; Spitzer et al., 2006).

#### Procedures

##### Quantitative data and blinding procedures

To prevent bias arising from knowledge of the effectiveness of individual PWPs, blinding procedures were employed when requesting the outcome data from services and prior to qualitative interviews. Outcome data was cleaned and stored by a third party (DS, who was not involved in the interviews) and the lead researcher did not access the PWP or supervisor-completed measures prior to conducting interviews. An additional layer of blinding was added by ensuring that PWPs were anonymised in their datasets by data managers, with anonymity checked by a third party (DS). This enabled the multi-level modelling analysis to be completed without identifying any PWPs and so minimised any potential bias in the analysis and ranking of PWP effectiveness.

##### Data analyses

##### Multi-level modelling

Analysis was conducted using multi-level modelling (MLM) software (MLwiN v2.3; Rasbash, Charlton, Browne, Healy, & Cameron, 2009). Modelling was restricted to 2-levels, with patients at level-1 and PWPs at level-2, due to the limited number of level-3 units (services) and the small numbers of PWPs within each service. However, the variability between services and the variability of PWPs within services was considered in further analysis.

Two separate models were developed, one each for the PHQ-9 and GAD-7, in order to examine differences in PWP outcomes for depression and anxiety. Pre-treatment scores and interactions between the measures were controlled for by the inclusion of both PHQ-9 and GAD-7 pre-treatment scores, centred around their grand means in both models (Hofmann & Gavin, 1998; Wampold & Brown, 2005). Variables in the model were considered statistically significant when their coefficients were more than 1.96 times their standard errors. Models were developed in stages using Iterative Generalised Least Squares (IGLS) procedures, beginning with a single level regression model, where the impact of the PWP was ‘fixed’ and the regression line and outcome intercept was considered to be the same for all PWPs. By progressing to a random intercept, multilevel model with patients at level 1 and PWPs at level 2, the regression lines and intercepts could vary for each PWP but remain parallel.

The final stage was a random slope model, where the relationship between pre-treatment scores and outcome was also allowed to vary between PWPs. At each development stage, improvements in the model were tested for significance by comparing the derived  $-2 \times \log$ likelihoods against the chi-squared distribution for the additional degrees of freedom. From the final models, the proportion of the total unexplained outcome variance that was at the PWP level was taken as the therapist effect. Because IGLS procedures tend to slightly underestimate effects and the sample of PWPs was not particularly large, Markov Chain Monte Carlo (MCMC) procedures were utilised. A simulation chain of 25,000 iterations was found to be adequate to stabilise parameter estimates from which the median therapist effect was derived, along with a 95% ‘probability interval’ (PrI) taken as the 0.025 and 0.975 percentile values in the chain (Browne, 2009).

The intercept residuals for each PWP, produced by the model represent the error terms by which each PWP's regression line deviates from that of the average PWP, after controlling for client pre-treatment scores. Therefore, residuals may be used to rank and make comparisons between PWPs (Goldstein & Spiegelhalter, 1996; Rasbash, Steele, Browne, & Goldstein, 2009). The MLM analysis was, therefore, used in three ways: (1) to examine the amount of variance in the outcomes attributable to PWPs, controlling for pre-treatment scores to assess whether the therapist effect was significant; (2) to examine the shape of residual plots of PWP variation; and (3) to utilise this shape in determining quartiles of PWPs based on the rank of their residual plots.

#### Patient outcomes

In addition to pre-post effect size, reliable improvement and reliable deterioration on PHQ-9 and GAD-7 were calculated using the Reliable Change Index (Jacobson & Truax, 1991). Patients were considered to have made reliable improvement or deterioration, if their scores had increased or decreased at post-treatment by at least 6 points on the PHQ-9 or by at least 4 points on the GAD-7 (Parry et al., 2011). Therefore patients scoring above the clinical cut-off at pre-treatment were deemed to have made a 'reliable and clinically significant' improvement during PWP treatment if: (a) they made reliable improvement; and (b) their post-treatment score was below clinical cut-off. Overall sample rates were calculated as well as the rates for individual PWPs.

#### Analysis of more and less effective PWP clusters

Using the ranked PWP residuals derived from the model, PWPs were grouped into upper and lower effectiveness quartiles enabling quantitative and qualitative analyses of differences. Mann Whitney *U* tests were used to test for differences on PWP and supervisor rated measures and uncontrolled effect sizes using Cohen's *d* and recovery rates were calculated for the upper and lower quartile groups. Qualitative analyses of the PWP and supervisor interviews were conducted using Template Analysis (TA; King, 1998). In TA, *a priori* codes are defined which are expected in the data – the template – but modified and supplemented by additional codes as the analysis progresses. This approach is widely used in health research (e.g., King, Thomas, Bell, & Bowes, 2003) because it is a flexible approach, easily modified for different and specific areas of study.

A key feature of TA is hierarchical coding, with higher order codes overarching a cluster of lower order codes in a similar theme (King, 2004). *A priori*, high order themes were based on the interview schedules that were then analysed in two stages: (1) initial exploration of the data of all participants; and (2) examination of common lower order themes between upper and lower PWP effectiveness quartiles. High order themes were used as a guide to examine emerging lower order themes across all PWPs and supervisors in the first stage of analysis, consistent with the "listing codes" procedure outlined by King (2004). As a quality check, an independent researcher (a doctoral level student familiar with TA) analysed 6 interviews (15%), 2 taken from each of the PWP effectiveness groups (i.e., upper, lower, and middle quartiles). They independently coded lower order themes from the template of high order themes, which were then compared with the lead researcher's codings. There was a 78% agreement rate for coding of the lower order themes.

In the second stage, some higher order themes were deleted or redefined according to the TA procedure (King, 2004). Themes were deleted if fewer than 2 PWPs or supervisors had described a similar lower order theme of relevance to the high order theme. Lower order themes identified by more than 2 PWPs or supervisors in their respective group (i.e., upper or lower quartile) were included as a final lower order theme. Quality control procedures were then

again implemented with another independent rater (doctoral level student familiar with qualitative analysis). They examined the high and lower order themes for the upper and lower quartile effectiveness groups to determine whether agreement was met regarding their appropriateness and fit. The second stage of quality control resulted in two changes to the labelling of lower order themes, but did not change the content of any of the themes.

## Results

Results are presented in three specific phases: (1) analyses of outcomes at patient and PWP level; (2) testing for therapist effects using MLM to yield effectiveness clusters for PWPs; and (3) quantitative and qualitative analyses of derived upper and lower PWP effectiveness quartiles.

### Outcomes

#### Patient level outcomes

Table 1 presents the mean patient-level outcomes for the PHQ-9 and GAD-7 ( $N = 1122$  patients). The mean (SD) change scores (i.e., from pre-treatment to final session) on the PHQ-9 and GAD-7 were 3.34 (6.43) and 3.05 (5.82) respectively, with corresponding pre-post effect sizes of 0.52 for depression and 0.55 for anxiety. Reliable changes in depression rates were as follows: 31.6% of patients made a reliable improvement and 3.6% reliably deteriorated. For anxiety, 41.8% of patients made a reliable improvement and 4.2% had a reliable deterioration. Adopting the more stringent criteria of reliable and clinically significant change, for those patients meeting pre-treatment caseness criterion on PHQ-9 ( $N = 775$ , 69.1%), 34.1% made a reliable and clinically significant improvement (i.e., statistically 'recovered'). Of the  $N = 860$  (76.6%) who scored above the caseness cut-off at intake on the GAD-7, 36.5% met the equivalent criteria for reliable and clinically significant improvement.

#### PWP level outcomes

Table 2 presents PWP-level outcome indices. This reports the median and range of effect sizes, reliable improvement, deterioration rates, and statistical recovery rates on the PHQ-9 and GAD-7. The pre-treatment caseness rates on PHQ-9 ranged from 25.0% to 93.3%, with a median rate of 68.1%. For GAD-7 caseness rates, the range was the same with a median of 75.0%.

#### Multi-level modelling

The initial stage of multi-level modelling produced two single level regression models for depression (PHQ-9) and anxiety (GAD-7) separately, including and controlling for both pre-treatment scores and the interaction between them. A multi-level model was then developed with PWPs at level-2 and allowing individual PWPs regression lines and their intercepts to vary, whilst keeping a common slope. Using the likelihoods ratio test to estimate the between PWP variation in the intercepts and comparing to the single level model, showed that the difference was significant for both depression and anxiety: PHQ-9,  $\chi^2(1) = 142.023$ ,  $p < 0.001$ ;

**Table 1**

Patient level outcomes scores at pre- and post-treatment, change scores, and pre-post treatment effect sizes.

Outcome measure	Mean score (SD)			Pre-post therapy effect size
	Pre-treatment	Post-treatment	Change score	
PHQ-9	13.17 (6.43)	9.83 (7.15)	3.34 (6.43)	0.52
GAD-7	12.04 (5.57)	8.99 (6.32)	3.05 (5.82)	0.55

**Table 2**  
PWP level outcomes for PHQ-9 and GAD-7.

Outcome criterion	PHQ-9	GAD-7
	Median (Min – Max)	Median (Min – Max)
Pre-post effect size	0.74 (–0.13–1.27)	0.76 (–0.16 – 1.26)
Reliable improvement (%)	40.5 (0–52.9)	53.3 (0–66.7)
Reliable deterioration (%) <sup>a</sup>	0 (0–14.7)	1.70 (0–12.2)
Reliable and clinically significant improvement (statistical recovery) (%)	35.7 (0–55.6)	43.2 (0–85.7)

<sup>a</sup> 13 PWPs had no reliable deteriorations on PHQ-9, while 8 had no deteriorations on GAD-7.

GAD-7  $\chi^2(1) = 140.488, p < .001$ . Results indicate that the random intercept model was a better fit for the data than the single level regression, suggesting significant variability between PWPs, even after adjusting for pre-treatment severity.

The random slopes model considered how the relationship between pre-treatment score and outcome score varied between PWPs. Model 1, for depression outcomes (see below) showed that the intercepts of the individual PWP lines varied, with a mean of 8.664 (SE 0.437) and a variance of 2.779 (SE 1.131). The coefficient of the PHQ-9 average slope was estimated at 0.549 (SE 0.046) and individual PWP slopes varied about this mean with an estimated variance of 0.013 (SE 0.009). The loglikelihood test for Model 1 (see Appendix) was significant ( $\chi^2(2) = 13.725, p < .01$ ), thereby indicating an improvement from the random intercept model.

Model 2 (see Appendix) for anxiety outcomes shows that the intercepts of the individual PWP regression lines were varied, with a mean 7.805 (SE 0.393) and variance of 2.262 (SE 0.917). The coefficient of the average slope was estimated at 0.478 (SE 0.048) and individual PWP slopes varied about this mean, with an estimated variance of 0.015 (SE 0.010). The loglikelihood test indicated the random slope model was significantly better than the random intercept model ( $\chi^2(2) = 17.283, p < .001$ ).

*Therapist effects*

The therapist effect for PHQ-9 outcomes (see Model 1) was 8.7% and for GAD-7 (see Model 2) the effect was 8.8%. This indicates that

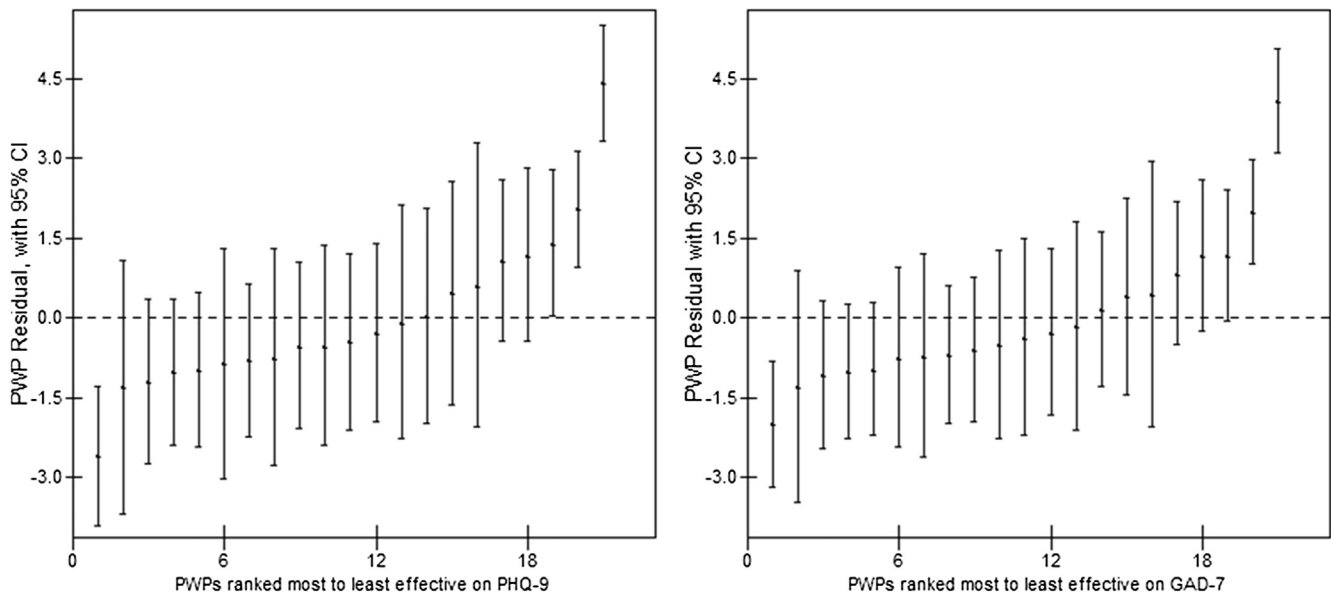
approaching 9% of the variability in patients' outcomes for both depression and anxiety was due to variability between PWPs – after controlling for pre-treatment severity. MCMC procedures indicated a median therapist effect of 9.7% for PHQ-9 with a 95% PrI of 5.8%–17.4%, while for the GAD-7, the effect was 9.8% (95% PrI: 5.8%–17.6%).

*Ranking PWP effectiveness using model residuals*

In order to make comparisons between the outcomes of PWPs, residuals of individual practitioners were used. Residuals represent how each PWP departs from the overall outcome mean. These residuals can be used to rank PWPs and plot the shape of the variation in outcome between practitioners. Fig. 1 presents the residuals (with 95% CIs) plotted for PHQ-9 and GAD-7 with PWPs (ranked from most to least effective) shown across the x-axis.

PWP rankings between patient outcome measures correlated strongly ( $r = .96, p < 0.001$ ), indicating that practitioners more effective at treating depression were also more effective at treating anxiety. The plots show that confidence intervals were large, with only four PWPs having 95% CIs that did not cross zero on PHQ-9 and three on GAD-7. The remaining PWPs' residual values all had confidence intervals that crossed zero, indicating that they were not significantly different from the average PWP.

Because of the small number of PWPs that were significantly different from the average PWP and in order to compare patient outcomes with data from the PWP measures and interviews, the five PWPs ranked 1–5 and the five ranked 17–21 were used to make comparisons. Those ranked 17–21 were the same for both PHQ-9 and GAD-7. However, for those ranked 1–5 only four were the same. In order to determine the fifth ranked PWP, composite rankings from both measures were used. PWP ID 6 who was ranked 5 on PHQ-9 and 8 on GAD-7 had an average rank of 6.5, while PWP ID 17 was ranked 7 on PHQ-9 and 4 on GAD-7, giving an average rank of 5.5. Therefore the latter was selected as the fifth, high-ranked PWP. The composite rankings correlated significantly with statistical recovery rate rankings for PHQ-9 ( $r = 0.86, p < 0.001$ ) and GAD-7 ( $r = 0.89, p < 0.001$ ).



**Fig. 1.** PWP residuals (with 95% CIs) for PHQ-9 and GAD-7.

**Table 3**  
PWP upper and lower effectiveness cluster means (SD) for Resilience, Ego Strength, and Intuition.

Quartile	CD-RISC resilience		PIES ego strength	REI intuition PWP rated		REI intuition Supervisor rated	
	Norms: Inter-quartiles	M (SD)	M (SD)	Rational M (SD)	Experiential M (SD)	Rational M (SD)	Experiential M (SD)
Upper	90	82.00 (8.86)	274.80 (9.99)	64.00 (2.35)	58.40 (5.18)	62.40 (2.88)	50.80 (4.82)
Lower	73	70.20 (4.44)	268.00 (9.62)	66.00 (2.00)	57.20 (3.11)	61.25 (2.22)	59.75 (4.99)

Published norms for US adult general population ( $N = 577$ ) are  $M = 80.40$ , ( $SD = 12.8$ ); Median = 82 (Connor & Davidson, 2003).

#### Service variability

Service codes indicated that the three clusters contained PWPs from a range of services and for the 5 services with more than one PWP, no service was over-represented in either the high or low-ranked clusters. The 5 PWPs of one service were represented in each of the clusters, while the 3 PWPs of another were represented in both the high and low-ranked clusters. The remaining 3 services had PWPs in the middle 50% and one of the other clusters. To illustrate the variability between services and between the PWPs within services, PHQ-9 outcomes for the two services with 5 PWPs each, were considered further. The recovery rates for these two services were 36.5% and 41.5%, while the PWP rates in each ranged from 29.6% to 42.1% and 27.0% to 57.1% respectively.

#### Comparisons of upper and lower PWP effectiveness quartiles

##### Quantitative approach

The pre-post effect size for the least effective PWP cluster was 0.20 on the PHQ-9 and 0.22 on the GAD-7, while for the most effective cluster the effect sizes were 0.92 and 0.95 respectively. Using ANCOVAs to control for pre-treatment scores, the outcomes for patients treated by upper quartile PWPs were significantly better for both depression and anxiety (PHQ-9,  $F(1,823) = 133.0$ ,  $p < .001$ ; GAD-7,  $F(1,823) = 125.0$ ,  $p < .001$ ). Significantly more patients treated by the most effective PWPs (46.4%) compared to less effective PWPs (19.0%) made a reliable improvement in depression ( $\chi^2(1) = 68.5$ ,  $p < 0.001$ ). Significantly more patients treated by the most effective PWPs (58.3%) compared to less effective PWPs (25.7%) made a reliable improvement in anxiety ( $\chi^2(1) = 84.1$ ,  $p < 0.001$ ) during treatment. The most effective PWPs also had fewer patients who reliably deteriorated – 0.7% on PHQ-9 and 2.5% on GAD-7 – compared with 6.2% on both measures for the least effective PWPs.

Whilst there was no significant difference between the two PWP clusters in the proportion of patients who met caseness prior to treatment, there were significant differences in rates of patients achieving reliable and clinically significant improvement. Top ranked PWPs had a rate of 51.9% for depression compared with a rate of 21.1% for the bottom ranked PWPs ( $\chi^2(1) = 56.17$ ,  $p < 0.001$ ). For anxiety outcomes, the respective rates were 57.8% and 23.0% ( $\chi^2(1) = 74.52$ ,  $p < 0.001$ ). In terms of the PWP completed measures, resilience was significantly higher in the high ranked PWP cluster ( $U = 2.000$ ,  $N_1 = 5$ ,  $N_2 = 5$ ,  $p = .03$ ). Clinical supervisors for PWPs in the low ranked cluster rated their PWPs as using significantly more experiential intuition during their decision making ( $U = .500$ ,  $N_1 = 5$ ,  $N_2 = 5$ ,  $p = .02$ ). Differences between the clusters on ego strength were not significant ( $p > .05$ ). Table 3 presents the means and SDs of the effectiveness quartiles for Resilience, Ego Strength, and Intuition.

##### Qualitative approach

The qualitative results presented derive from the second stage of analysis of high and lower order themes in the upper and lower PWP effectiveness quartiles and are mapped out in Fig. 2. Full

templates of lower order themes are available from the first author. High order themes are presented on the left of the figures, with lower order themes of participants in the upper and lower quartiles on the right. Although PWPs in the upper and lower quartiles did report some of the same themes, only the *unique* lower order themes are presented and discussed further. Two high order themes were deleted due to lack of subthemes emerging amongst practitioners in the two groups: “how previous experience hindered” (PWP question only) and “how CPD has influenced PWP practice” (supervisor and PWP question). The first three high order themes relate to questions asked to both PWPs and supervisors and the three high order themes in italics relate to questions only asked to PWPs, therefore no lower order themes for supervisors could have emerged. To ensure anonymity the following quotes have all been changed to reflect female respondents, even when the PWP was male.

##### More effective practitioners

Fig. 2 shows a total of 11 unique lower order themes reported by PWPs in the upper effectiveness quartile, whilst supervisors reported 5 different unique lower order themes. In relation to the three high order themes relating to both PWPs and supervisors in the upper quartile, this group of PWPs and their supervisors reported that effective PWPs employed *proactivity* to develop their skills by (1) using online research, (2) using observation of others in clinical practice and (3) being an active participant in supervision. This proactive stance was also reflected in PWPs' reports of their accessing of supervisors' skills and knowledge and engaging in supervision at a deeper experiential level:

“With clinical supervision I try to get the most out of it through thinking of different ways we can use it, like by having case discussions, case presentations....role plays and things” (PWP A:5)

Effective PWPs typically ensured that they were *prepared and organised* for supervision:

“I usually [pull together information on] who I'm currently working with, recently assessed, recently discharged [other information including outcome scores] and present a copy of that every case management supervision to my supervisor and highlight which ones I'd like to discuss” (PWP B:6)

The good organisational skills of effective PWPs were reciprocally reported by supervisors, who noted that such PWPs openly discussed clinical difficulties:

“She's very happy to bring along examples of things that are going well, things that are going less well” (Supervisor A:4)

Some of the lower order themes for effective PWPs indicated skilfulness in use of the PWP clinical method. For example, effective

High order themes	Lower order theme: Upper quartile		Lower order theme: Lower quartile	
	PWP	Supervisor	PWP	Supervisor
Engagement with supervision to improve skills	Being prepared and organised Utilising supervisor's knowledge Process supervision	Open to discussing difficulties Active supervision participant	Specific clinical questions	Openness
Hallmarks of clinical practice	Communication skills Adapting interventions to the individual	Organisational skills		Interpersonal skills Openness
Methods of improving practice	Observing others	Proactive in improving practice Online research		
How previous experience helped	Knowledge of CBT principles		Developed interpersonal skills	
Gaps in skills or knowledge	Knowledge of medication Gaps go beyond low intensity		Specific skills Knowledge of specific interventions	
Working in the stepped care model	Understanding IAPT model and PWP role Knowledge of when to step up		Communication	

Fig. 2. High order and lower order sub-themes for PWP top and bottom effectiveness quartiles.

PWPs reported being thorough in their approach with clients, ensuring clarification in their communication:

"I do make efforts to be explicit with clients about exactly why it is that I'm talking to them about doing certain things, the rationale for it and how it's going to help them" (PWP D:7)

This skillfulness was also reflected in the PWPs description of their ability to adapt interventions to fit individual patient needs, whilst not drifting away from treatment protocols. The three high order themes relating to only PWPs and not supervisors indicated that PWPs in the upper quartile had a good understanding of the IAPT model and PWP role, previous knowledge of CBT and felt certain of when to step patients up to high intensity CBT:

"I'm aware that there are things that I'm not sure about, but I think they're more high intensity work that needs doing" (PWP D:1)

*Less effective practitioners.* Fig. 2 shows that five unique lower order themes emerged from PWPs in the lower effectiveness quartile and three unique lower order themes emerged from their supervisors. Lower effectiveness PWPs lower order themes reflected less confidence in the PWP clinical method and the need for further development in specific PWP treatment skills:

"There's a lot of emphasis on behavioural activation, but I don't feel like I have very good skills in delivering that" (PWP W:8)

The approach to supervision also reflected less confidence in using supervision to ask specific clinical questions:

"I've got loads of guidance on who I shouldn't be seeing and who needs stepping up, and about things about the disorders we didn't look at University" (PWP Y:9)

PWPs in the lower quartile reported that the main way to be effective in the stepped care model was through communication.

"I make my best efforts to introduce myself to the GP so that I'm not just a name, so that they know I'm a presence and that I'm there to support their patients and try and open communication a little bit" (PWP Z:10)

This account differs from PWPs in the upper quartile, as it does not reflect any specific factor associated with IAPT or the PWP role. In quote Z:10 the focus is on communication and not on communication specifically about step two interventions or about the IAPT model generally. Openness was a quality that supervisors of PWPs in the lower quartile reported across two higher order themes, for example:

"If she's not sure of something she will ask" (PWP V:11)

However, this differs from openness reported by supervisors of upper quartile PWPs, as it does not reflect openness to difficulties.

## Discussion

The current research had two aims: (1) to test for the presence of therapist effects using multilevel modelling in a sample of qualified PWPs delivering brief protocol-driven low intensity cognitive behavioural interventions in routine practice and (2) to establish the clinical and organisational skills that differentiate more and less effective PWPs. Results indicated that therapist effects accounted for approximately 9% of the variance in patient outcomes in step 2 IAPT services – when utilising the most appropriate statistical analysis for such nested data and controlling for pre-treatment scores. As the research dataset contained both completed and in-treatment cases this accessed the most contemporary index of PWPs effectiveness and so was considered a better estimate of



therapist effects. PWP do not operate specialist services in which patients are assigned to them, beyond meeting service requirements of mild to moderate anxiety/depression. The variation evidenced between PWPs is therefore more likely to reflect differences in individual PWP practice rather than an expression of organisational or systemic influences.

The rate of 9% is comparable to previous studies of therapist effects during routine delivery of the traditional 'low volume, high contact' psychotherapies, where the percentage of variance attributable to therapists ranges from 5 to 8% (Lutz et al., 2007; Wampold & Brown, 2005). The lower bound of the 95% probability interval (5.8%) fell within this range. Clinical outcomes were broadly representative of PWP work (e.g., Glover, Webb, & Evison, 2010). However, in the current study more effective PWPs consistently yielded greater change in their anxious and depressed patients, with higher positive change rates and lower patient deterioration rates. Using Cohen's (1990) power primer, less effective PWPs produced a small effect size in their patients, whilst more effective PWPs produced a large effect size. More effective PWPs were more resilient, more confident in their skills and had a more proactive/organised/thorough approach to the delivery of the low intensity cognitive behavioural interventions. The finding of a therapist effect is interesting as the guided self-help interventions at step 2 in IAPT are protocol-driven, with original training and subsequent supervision actively discouraging therapeutic drift (Waller, 2009). Findings therefore challenge the notion that protocol-driven therapies are wholly uncontaminated and unadulterated by the skills of the practitioner delivering the intervention. It is a significant strength of the current report that MLM analyses were then yoked to therapist characteristics (and qualitative results), as that is not the norm in therapist effects research.

Whilst NICE guidelines recommend specific types of treatments for particular diagnoses, the present research prompts the need to reconsider the role of the therapist in the delivery of evidenced-based psychological therapies. The findings suggest that what self-help intervention patients receive is important, but also the skill with which it is delivered is vital in creating outcomes (i.e. the intervention is not a purely technical concern). The finding that knowledge of the treatment protocols appears vital for PWPs would suggest that this declarative knowledge (Bennett-Levy, 2006) is however one of the foundation stones of effectiveness. The skill appears to be melding protocols to fit the emotional needs of the patient, so that evidence drives the treatment whilst acknowledging and respecting each patient's individuality and context. Results suggest that good knowledge of the PWP clinical method enables effective practitioners to 'flex' low intensity interventions to suit the needs of the individual patient, whilst resisting therapeutic drift (Waller, 2009). When traditional therapists are provided with feedback on patient progress, clinical outcomes improve (Lambert et al., 2002). The outcome framework that supports and evaluates IAPT (Care Services and Improvement Partnership Choice and Access Team, 2008) makes such feedback possible. PWPs and supervisors should therefore regularly review their recovery rates in order to ensure that low intensity treatment is actually helping (Kraus, Castonguay, Boswell, Nordberg, & Hayes, 2011). Supervisors may unhelpfully collude with poor clinical performance if the anxiety of raising the issue of evidence of a consistent lack of patient progress feels too onerous.

More and less effective PWPs clusters differed in terms of self-rated resilience. Inspection of these means compared with the available (limited) norms from a general population sample (Connor & Davidson, 2003) suggests that the PWPs in the higher cluster scored similarly to the population mean (i.e., they are not 'super resilient'). The reliance scores from the PWPs in the lower effectiveness quartile were, however, within the bottom quartile of

the general population. Therefore PWPs with 'average resilience capacity' facilitate better outcomes for their patients, whilst 'resilience deficits' appear to be associated with less patient change. The concept of resilience relates to the ability to cope with challenges, adversity or stressors (Rutter, 1993). The 'low contact, high volume' approach at step 2 IAPT services may present a challenge, given that one of the defining features of PWP work is the safe and effective management of high caseloads (Care Services and Improvement Partnership Choice & Access Team, 2008). It is worth noting that in sampling and then comparing the characteristics of the highest and lowest effectiveness quartiles of PWPs from the caterpillar plots meant that the subsequent analysis compared relatively small Ns of practitioners (i.e., 5 in each PWP cluster). The characteristics comparisons should therefore be viewed with caution and also as a prompt for further investigation. Any further research that combines MLM, therapist effects and therapist characteristics should aim to increase the sample size of the therapists, in order to meet power considerations in any subsequent characteristic analyses.

Supervisors' accounts of more effective PWPs also provided additional evidence of resilience, describing practitioners who remained open to discussing the difficulties of their low intensity work during supervision. This openness to learning was not a factor described by supervisors of the less effective PWPs. In all these instances, resilience would be best understood as a process (Zautra, Hall, & Murray, 2010), rather than the expression of the trait of resiliency. Resilience in PWPs is therefore malleable and would be the result of practitioners working in the stepped-care system and developing clinically from case management and clinical supervision support. Training efforts could be directed at developing resilience in PWPs. Future therapist effects research could also include 3 and 4 level models in which practitioners are nested in clinical supervisors, who are nested in different services. Obviously, this then inflates the need for much larger samples of PWPs, clinical services and supervisors.

Experiential intuition is defined as information processing that is "preconscious, rapid, automatic, holistic, primarily nonverbal and immediately associated with affect" (Pacini & Epstein, 1999, p. 972) and the use of this processing style was rated significantly higher by supervisors of practitioners in the less effective PWP cluster. This may not be the most useful approach in the PWP role, given typically high caseloads and associated client turnover and throughput. This result needs to be treated with some caution, however, as the REI is not validated for "other-rated" usage. Use of supervisor ratings represents a methodological strength of the current study adding objectivity and use of supervisor ratings is novel in therapist effects research – as is any associated qualitative analysis. The use of a less affect-driven processing style was reflected in the qualitative accounts of the more effective PWPs and reported as being more proactive, prepared and organised. More effective PWPs also reported an overall sense of being more confident in their competence through being more grounded in the IAPT model, flexibly adapting the clinical method and making more use of supervision. This depicts a virtuous circle of more organised, confident and well-versed PWPs with sound knowledge of the treatment protocols producing better outcomes; no doubt reinforcing being organised, confident and well-versed in the PWP clinical method. These results prompt further PWP therapist effects research to sample both the characteristics and the actual 'in-session' behaviour of effective practitioners. This will then identify what it is that effective practitioners are doing differently and how this is actually clinically achieved. For example, the in-session practice of the single 'super-coach' in the present sample would be useful to sample and study.

Less effective PWPs reported gaps in their skills and knowledge of the PWP clinical method (e.g. regarding the low intensity

behavioural activation treatment protocol). Having a gap in declarative knowledge of behavioural activation would hamper effectiveness, as this is a cornerstone of the PWP clinical method (Richards & Whyte, 2009). Lack of knowledge may have also been a factor in less effective PWP's using of supervision to ask specific clinical questions, rather than engaging in the more process-type supervision reported by more effective PWP's. Heppner and Roehike (1984) found that use of supervision in novice traditional therapists was defined by demanding direction and advice on technique. Stoltenberg and McNeill (1997) defined lower-level supervisees as relying on supervision to seek reassurance and glean specific guidance, whilst upper-level supervisees were open to developing enhanced self-awareness via reflection. The current research highlights that even in practitioners matched in their experience of PWP working, early differences in the use of clinical supervision can still occur.

In terms of methodological limitations, the possibility of study bias was introduced by 9/15 services and 18/47 PWP's declining to participate. Therefore, the research sample may have included only those services and PWP's sufficiently secure in their own practices to feel able to participate. The voluntary nature of research and associated avoidance of participation presents a common problem across practitioner studies. As therapist effects were solely measured by clinical outcome, future research would also benefit from accessing a wider indication of practitioner effectiveness, such as analysis of variation in dropout and return to work rates for example. It is worth noting that there is currently no validated measure of PWP competency for use in routine clinical practice and supervision, in contrast to the regular use in traditional 'high intensity' CBT of the Cognitive Therapy Scale-Revised (CTS-R; Blackburn et al., 2001). Development of a valid and reliable PWP treatment fidelity measure for routine practice, which is easy to use in training and supervision, is sorely needed to support PWP's in their clinical work.

The final methodological critique is the relatively small sample size of IAPT services accessed in the present research. Gyani et al. (2013) evidenced a broad recovery rate range of between 23.9% and 56.5% across IAPT services and did note that service level factors (such as size of the service and the use of stepped-care) did influence patient outcomes. Indeed, the present dataset had a 3-level structure (1: patient, 2: PWP, 3: service), but it did not contain an adequate number of services to reliably model the service effect. However, our limited analysis suggests this may not be as important as the evidenced therapist effect, as we found services to be represented in at least two of the three effectiveness clusters and recovery rates for PWP's within a single service ranged from 27% to 57%. However, further research with both large numbers of services and practitioners nested within such services will be needed to reliably differentiate the effects of the practitioner and that of the service. Any effect of service would then point to the need for organisational level interventions (e.g. systems review) to support practitioners in their work and to improve outcomes for patients. Datasets from 6 PWP's could not be included in the current study, due to technical retrieval difficulties within the IAPT services in terms of their outcome data systems. Such difficulties are a challenge to the routine retrieval of data and associated feedback that is at the heart of the IAPT philosophy and values (Care Services and Improvement Partnership Choice and Access team, 2008). Subsequently, the sample utilised was smaller than the 30 practitioners recommended for use in MLM (Soldz, 2006). However, by using MCMC procedures, confidence intervals were derived to assess and report the reliability of estimates.

In conclusion, this study has found evidence of therapist effects in PWP's using guided self-help interventions in routine

IAPT practice and adds to the growing body of evidence indicating that therapists can and do provide significant contributions to outcome. The results have wide implications for the selection, education, training and supervision of PWP's. The treatment of PWP's as a random factor in the MLM means that findings can be generalised, despite the reservations that have been made concerning avoidance of participation. More research is needed using larger Ns across model levels, use of treatment fidelity measures and further longitudinal exploration of the concept of clinical and organisational resilience as a malleable and on-going process.

### Conflict of interest

None declared.

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### Appendix

Model 1:

$$\begin{aligned} PHQlast_{ij} = & \beta_{0j} + \beta_{1j}(PHQfirst - gm)_{ij} \\ & + 0.117(0.041)(GADfirst - gm)_{ij} \\ & + 0.012(0.005)(PHQfirst - gm) \cdot (GADfirst - gm)_{ij} + e_{ij} \end{aligned}$$

$$\beta_{0j} = 8.664(0.437) + u_{0j}$$

$$\beta_{1j} = 0.549(0.046) + u_{1j}$$

$$\begin{pmatrix} u_{0j} \\ u_{1j} \end{pmatrix} \sim N(0, \Omega_u): \Omega_u = \begin{pmatrix} 2.779(1.131) & \\ 0.074(0.074) & 0.013(0.009) \end{pmatrix}$$

$$\begin{aligned} e_{ij} & \sim N(0, \sigma_e^2) \sigma_e^2 = 29.122(1.250) \\ -2 * \loglikelihood & = 7010.868(1122 \text{ of } 1122 \text{ cases in use}) \end{aligned}$$

Model 2:

$$\begin{aligned} GADlast_{ij} = & \beta_{0j} + \beta_{1j}(GADfirst - gm)_{ij} \\ & + 0.131(0.032)(PHQfirst - gm)_{ij} \\ & + 0.014(0.004)(GADfirst - gm) \cdot (PHQfirst - gm)_{ij} + e_{ij} \end{aligned}$$

$$\beta_{0j} = 7.805(0.393) + u_{0j}$$

$$\beta_{1j} = 0.478(0.048) + u_{1j}$$

$$\begin{pmatrix} u_{0j} \\ u_{1j} \end{pmatrix} \sim N(0, \Omega_u): \Omega_u = \begin{pmatrix} 2.262(0.917) & \\ 0.112(0.073) & 0.015(0.010) \end{pmatrix}$$

$$\begin{aligned} e_{ij} & \sim N(0, \sigma_e^2) \sigma_e^2 = 23.436(1.006) \\ -2 * \loglikelihood & = 6765.856(1122 \text{ of } 1122 \text{ cases in use}) \end{aligned}$$

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