

'Dissemination methods and attitudes to Family Intervention for psychosis in Trainee Clinical Psychologists'

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Introductory chapter - Overview of thesis.

This thesis broadly explores evidence-based practice (EBP) in mental health, with a particular focus on dissemination and implementation of research evidence regarding family intervention in psychosis.

Chapter one comprises a review of evidence-based practice in mental health, including the uptake of evidence-based practice, the effects of training, research dissemination and implementation strategies. A brief narrative review is presented followed by a systematic review examining uptake of evidence-based therapies by mental health practitioners. Eleven papers were selected for review and were measured against the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) guidelines (von Elm, Altman, Egger, Pocock, Gøtzsche & Vandenbroucke, 2007). Following this, conclusions regarding the current evidence and areas which need to be developed are discussed, primarily the need for standardised measures, an indication of clinical change and provision of follow-up studies.

Chapter Two comprises an empirical paper intended to be submitted to the journal 'Implementation Science'. The aim was to address some of the issues identified in Chapter One, namely the use of standardised measures and the measure of a change in clinical practice. Mixed methods were used to assess attitudes to EBP in Trainee Clinical Psychologists and the effect that different dissemination methods had on their attitudes to a specific facet of EBP, family interventions in psychosis. A total of 104 trainee clinical psychologists from 23 UK training programmes participated in the online study, and were randomly allocated to one of four conditions.

- i. 'Minimal information': Participants viewed a brief summary of a fictitious service-user with psychosis, this served as the baseline condition.
- ii. 'Case study': Participants viewed a detailed case study describing the use of family interventions with a fictitious service-user with psychosis
- iii. 'Research summary': Participants viewed a detailed research summary showing research into the effectiveness of family interventions in psychosis
- iv. 'Combined', participants viewed both the case study and research summary

Following this, participants completed a survey of their experience with different therapies and demographic information and a standardised measure of attitudes to EBP. Participants then viewed

the minimal information about the fictitious client, followed by the summary specified in the condition they were allocated to. Participants then completed a questionnaire designed to assess their attitudes to family intervention in psychosis and their willingness to engage in further training. Responses to these served as the dependent variables. Participants were also given the opportunity to give their own views on the use of family interventions in clinical practice. Data were analysed using MANOVA and multiple regression, with thematic analysis (Braun & Clarke, 2006) employed for the qualitative data. Participants who viewed both case and research information showed a greater willingness to train than those who viewed research information alone.

Chapter Three, the concluding section, consists of a general discussion of the research, focusing on the findings and their relation to previous findings in the area, the implications of the findings for research and clinical training and practice, as well as strengths and limitations of the research. The main limitations identified were the lack of a follow-up and the suitability of willingness to train as a measure in trainee clinical psychologists. Recommendations for future research in this area are made. Following the general discussion section a proposal for a follow-on study, extending the current study and improving the methodology is presented. Lastly, the research is presented in the form of a report intended for submission to 'Clinical Psychology Forum'.

Chapter I – Systematic Review of the Literature

What guides mental health professionals to engage or not engage in Evidence Based Practice?

Background

Evidence-Based Practice (EBP) is now considered to be essential (British Psychological Society (BPS), 2010). Due to the emphasis on the scientist-practitioner model by training programmes world-wide, the ability to integrate the best-available research evidence, clinical experience and idiographic client factors when choosing and implementing psychological treatments has become central to the role of clinical psychologists and other mental health professionals. This is included in professional and regulatory body standards for clinical psychologists (American Psychological Association (APA), 2005; BPS, 2010; Health & Care Professions Council (HCPC), 2010). Despite this endorsement and the move within wider healthcare to embrace EBP, mental health professionals do not routinely engage in EBP (Addis & Krasnow, 2000; Sanderson, 2002).

EBP is not without controversy, most notably in regards to the adoption of Empirically Supported Treatments (EST) (Addis, 1997). Despite this, EBP remains the most effective way of ensuring that service-users receive the best psychological treatment for their difficulties. Although it is known that the application of empirically-supported mental health treatments is low (von Ranson & Robinson, 2006; Ehlers, Gene-Cos & Perrin, 2009), there is an acknowledged gap in knowledge of why this is the case (Gallo & Barlow, 2012).

Dissemination, diffusion and implementation

A gap between researchers and clinical practitioners has existed within mental health in general, for a long time (Kazdin, 2008). Despite attempts to bridge this gap, and increasing evidence for the specific efficacy of psychotherapies in specific disorders, there are still real concerns regarding the

adoption of research findings in clinical practice (Baker, McFall & Showham, 2008). It is important to make the distinction between diffusion, dissemination and implementation. These can be distinguished as increasingly more active steps in the process of integrating reliable, valid and useful research findings into clinical practice (Lomas, 1993). Dissemination theory has recently begun to be considered as being of importance to the dissemination of psychotherapy research and subsequent adoption.

Researchers have begun moving away from traditional models of diffusion, in which the onus was on clinicians to stay current with literature and implement new findings in their own practice, to more active, out-reach based methods (Stirman, Crits-Christoph, & DeRubeis, 2004). Early attempts to do this partially justified the use of treatment manuals, arguably the most controversial component of the EST literature. Despite offering advantages, such as empirical support and ease of use, treatment manuals have been heavily criticised for their prescriptive nature, which can limit idiographic formulation and ignore complicating factors present in non-research samples (Kendall & Beidas, 2007). Additionally, treatment manuals used in isolation have been demonstrated to be largely insufficient for increasing adoption of ESTs by clinicians (Miller *et al*, 2006).

Sommer (2009) suggested that researchers continue their current practice of writing for academic journals, but suggested that additional articles be written and disseminated in a format that was accessible to both clinicians and those who do not have research training. Some steps have also been taken to ensure that the evidence base is accessible to consumers; UK initiatives such as the National Institute of Clinical Excellence (NICE) provide publically accessible recommendations of treatment for disorders. One example includes an article, focusing on evidence for Cognitive Behavioural Therapy (CBT) in adolescents with panic disorder, in a magazine aimed at parents, although the impact of this was not assessed (Pian, Gallo & Pincus, 2008). Such active forms of dissemination and promotion are still very much in their infancy, and, as such, there is no available evidence of their impact.

The process of implementation involves not only increasing awareness of research findings, but systematically integrating them into routine clinical practice. Implementation requires greater activity on the part of researchers and clinicians, but in the main on the systems in which they work. The adoption of clinical guidelines, such as the NICE guidelines used in the UK, has been one implementation strategy at a system level; however, the existence of guidelines alone does not mean that they are implemented. Improving and increasing implementation is a difficult task. One Health Technology Assessment (HTA) programme report analysed 300 evaluations of attempts to improve implementation of evidence-based healthcare, including psychotherapies, and found modest effects across the interventions but no clear pattern of results. It concluded that there was an 'imperfect' evidence base for effective implementation (Grimshaw, Thomas, MacLennan, Fraser, Ramsay, *et al*, 2004).

There is increasing evidence that social and systemic attitudes to EST in particular, and EBP in general, are crucial factors in influencing their adoption by clinicians. The organisational social context includes both the norms and expectations for clinicians working within it, as well as the climate and the impact this has on workers (Aarons, Glisson, Green, Hoagwood, Kelleher *et al*, 2012). The importance of systemic influence and organisational attitude in the UK was highlighted in a study aiming to identify barriers to the use of family intervention in schizophrenia. It found that interviewees identified environmental resources, such as time and training, to be the biggest barriers to adoption (Michie, Pilling, Garety, Whitty, Eccles *et al*, 2007). This finding highlights the differences between general NHS strategy and the culture of local NHS trusts and individual services. The evidence suggests that local organisational culture is far more influential than guiding policy. This hierarchy of organisational culture has been previously explored with the finding that local culture is more influential on clinician behaviour, with the biggest influence on local culture being the presence of 'opinion leaders' (Dopson, FitzGerald, Ferlie, Gabbay, & Locock, 2002). The impact of organisational culture on adoption of new practices and policies was thoroughly explored by Davies (2002), who placed particular emphasis on the role of sub-cultures within the NHS;

particularly individual professions who bring their professional values to bear in the process of change, before concluding 'culture eats strategy for breakfast, every day, every time' (Davies, 2002, pp 142).

Training

Training in ESTs can be considered as one of the latter stages of implementation (Cucciare, Weingardt & Villafranca, 2008). A number of studies have suggested that access to training may be the primary barrier to clinician uptake of ESTs (Cook, Biyanova & Coyne, 2009). Additionally, clinicians have reported concerns about the utility of the training that is available to them, and the support that will be offered to them following it (Cucciare, Weingardt & Villafranca, 2008). It is important to notice that training in how to deliver evidence-based interventions, and training in what treatments are evidence-based, are equally important. Whilst evidence-based interventions can only be delivered by certain trained professionals, professionals often rely on other members of the team to explain evidence-based treatments to service-users, and to refer appropriately. The majority of research focuses on training in how to deliver evidence-based treatments.

The type of training being offered is often not sufficient, or evidence-based. A study examining the content of advertisements for psychotherapy workshops in the US showed that they did not refer to empirically-supported interventions and did not provide any discussion of the evidence that the advertised treatment was effective, focusing instead on expert testimonials (Cook, Weingardt, Jaszka & Wiesner, 2008).

In addition to perceived difficulties in accessing training, there is increasing evidence that common training methods do not facilitate adoption of EST. While short-duration workshop training generally improves clinicians' ratings of the usefulness of the treatment and knowledge of treatments (Hawkins & Sinha, 1998), it is generally ineffective in producing changes in clinical practice (Grol, 1997). Training methods that have been demonstrated to be successful in facilitating adoption and

implementations of ESTS, have generally been multi-modal, featuring a combination of didactic and competence-based training styles (McHugh & Barlow, 2010).

Most research into the impact of training on evidence-based practice in general, and EST adoption in particular, has been conducted in the US. This somewhat limits the generalizability of findings, due to the variety of different training routes and qualifications available in the US, and particularly given evidence that training on evidence-based treatments differs significantly between clinical programmes in the US (Woody, Weisz & McLean, 2005). There is currently a lack of research on the impact of training on evidence-based practice and treatment in the UK, where both training and employment are qualitatively very different. As research within this area tends to focus on one aspect of EBP and implementation, such as provision or quality of training or research dissemination, there is still no clear picture of why clinicians choose to engage or not engage in EBP. This review aimed to examine the reasons behind clinical use or non-use of EBP in general, and empirically supported psychotherapies in particular, within mental health.

Method

Literature search

Prior to beginning this review, searches were conducted in an attempt to identify previous systematic reviews on the topic, none were found. Articles presented in this review were extracted from DISCOVER, PsychInfo, PsychArticles, Medline, Web of Science, ERIC, JSTOR from 2000 to 2012, using the keywords 'empirically supported treatments, psychotherapy, implementation, research dissemination, evidence-based practice'. In order to ensure mainly relevant results whilst remaining inclusive, search terms were ordered as 'empirically supported treatments, evidence-based practice' AND psychotherapy AND implementation AND dissemination. This order seemed the most logical way to ensure that the results returned included only those studies that examined both dissemination and implementation of empirically supported psychotherapeutic treatments. Key-

words were generated by discussion of the review question and from hand-searching relevant published literature. Only English-language, quantitative studies examining attitudes towards, or the use of, empirically supported treatments were included. No distinction was made between type of EST, the target client group or the target condition.

From the original search, 250 articles were returned. Visual inspection of the titles resulted in 203 being excluded as they were judged to be clearly not relevant to the topic leaving 47 papers. A further 23 articles were identified from examining reference lists. A total of 70 articles were considered and obtained by the researcher. The researcher was not blind to author or institution.

This review focuses primarily on evidence-based psychotherapy adoption by psychologists in Adult Mental Health services. For this reason, a further 17 articles were removed from consideration as their primary focus was on children's services. Three articles were removed as they examined adoption in social service or education settings. Thirty-eight articles were excluded as they were commentaries or discussions. One article was removed as it used qualitative methodology, so as to allow for comparison between the methodologies of the different studies under review. The search process is outlined in Figure 1.

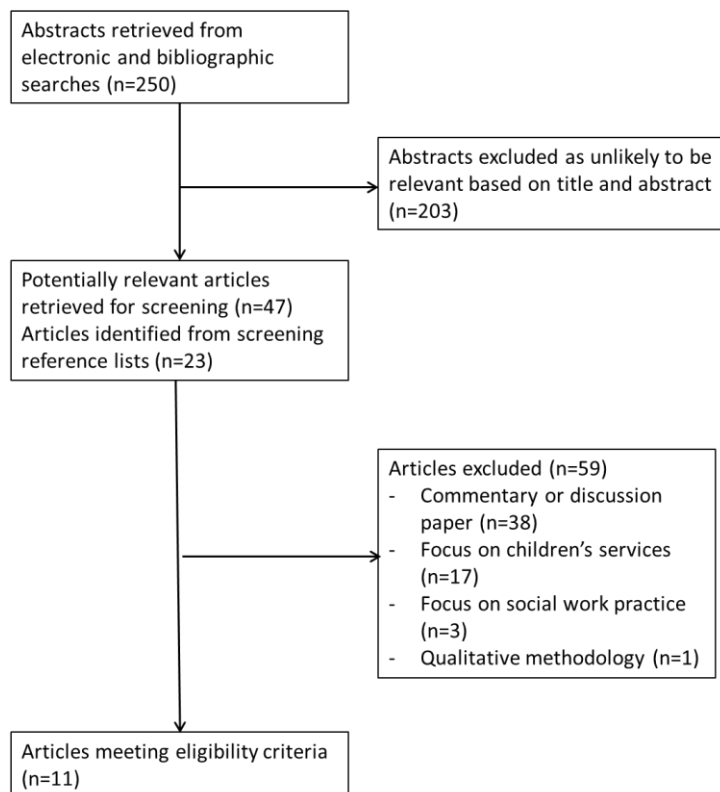


Figure 1 Results of systematic search and reasons for excluding papers

Quality assessment

As can be seen from Table 1, the identified studies were mainly survey-based observational studies, relying on clinician self-report of practice. The quality assessment criteria used were based on the Strengthening the Reporting of Observational studies in Epidemiology (STROBE) guidelines (von Elm, Altman, Egger, Pocock, Gøtzsche & Vandenbroucke, 2007) for the reporting of cross-sectional, observational research (Appendix 1). This method was selected after the identification of articles, as all studies identified were cross-sectional. The criteria are not of the desired depth, particularly in the area of statistical analysis and reporting, however there is a relative paucity of guidelines for cross-sectional research. This is likely to be due to the limitations of cross-sectional research designs. Each study was awarded a point for each of the criteria met from the STROBE checklist. It should be noted, however, that there was a discrepancy between the quality of the studies which obtained the same score using this checklist. For this reason, methodological concerns are also noted and quality judgements were not based entirely on scores obtained.

Results

A table summarising the studies included and their primary features is provided in Table 1 overleaf

Table 1 Characteristics, findings and quality ratings of studies

Authors	Participants	Method	Measures	Analysis	Findings	Quality rating based on STROBE and comments
Cook, J. M (2010)	2739 psychotherapy magazine subscribers registered. 2156 in final analysis, excluded students, non-US or Canada, psychiatrists and those with more than 25% incomplete. Completion rate 72%. No response rate given due to website constraints (i.e. privacy). Very diverse sample - majority social workers (n=775), counsellors (n=488), psychologists (n=374), marriage and family therapists (n=360) and other (n=158). Little information given about other category. 50% private practice.	Web-based survey.	Self-report - details of clinical work, theoretical orientation, client characteristics and use of specific psychotherapy techniques. Developed from interviews with seven clinicians (different professional groups).	Descriptive only.	Clinicians worked primarily with white, female clients. Mood and anxiety disorders most common. CBT most common theoretical approach, followed by family systems, psychodynamic, acceptance/mindfulness based. Only 50 participants identified as one orientation - rest 'eclectic'. Recommended that attempts to implement EBP be mindful of tendency to integrate.	27/32 Very mixed professional group. No information on missing data.
Gaudiano, B. A., <i>et al</i> (2011)	Inclusion criteria: >21 years old, licensed mental health professional, current practitioner of psychotherapy, internet access, ability to read and write in English. 288 participants completed, recruited from email LISTSERV devoted to psychotherapists. Majority of sample worked predominantly with adults. 60.6% female participants, majority psychologists, social worker counsellor. 44% doctoral, 47% masters.	Web-based survey, regression analysis used. Orientation coded as CBT vs. non-CBT.	Evidence-Based Practice Attitudes Scale (EBPAS) Rational-Experiential Scale (REI) Complementary and Alternative Medicine Health Belief Questionnaire (CHBQ) Magical Beliefs about Food and Health Scale (MFH) Did not measure actual use of EBP, just attitudes.	Multiple Hierarchical regression.	CBT identified as predominant theoretical orientation (34.9), followed by eclectic (22.9) Majority private practice (37.6). Reliance on intuition associated with: <ul style="list-style-type: none"> • Less openness to research-based treatments • Less willingness to use ESTs if required to. • More negative attitudes towards research. • More positive attitudes to alternative therapies • Greater endorsement of erroneous health beliefs. 	27/32 No discussion of missing data. Good reporting of measures and their reliability, all measures validated. Good analysis of access details (i.e. IP addresses checked to ensure no duplicates). Time taken to complete recorded and checked to ensure validity of responses. No discussion of effect size when reporting results, some of the effects small. Majority of the sample US based, limits generalizability. No assessment of EBP use, just attitudes to EBP.

Authors	Participants	Method	Measures	Analysis	Findings	Quality rating based on STROBE and comments
Luebke, A. M., <i>et al.</i> (2007)	1195 clinical psychology graduate students in the USUS 80.9% women. No information given about clinical experience. Grouped according to whether they expected to engage in more clinical practice, research, or a balanced mix post-graduation. No data collected about which training programme students belonged to.	Web-based survey	Measured definition, perceptions of and experience with EBP. Items on self-report scale assessed knowledge of EBP, knowledge of EBP gained from training and practice, influence on practice and research, expected influence on practice and research in the future.	ANOVA.	Misunderstandings about EBP prevalent. Students who planned research careers had a more favourable attitude to EBP than students who planned clinical practice careers.	24/32 No discussion of how missing data handled. No discussion of reasons for sample size or study power. Statistical analysis not discussed - just presented in results. Good discussion about limited generalizability given poor knowledge of EBP in sample. No data about training programmes - no way of ensuring that those who identified their courses as research-oriented or not were correct.
Najavits, L. M., <i>et al</i> (2010)	205 Veteran's Association (VA) staff members, all actively working with veterans with PTSD. Mixed professional backgrounds (37.6% doctoral-level psychologists, 30.7% social workers, nurses, substance abuse counsellors, psychiatrists). 81.5% conducted psychosocial clinical interventions. High ratings of perceived effectiveness (M=4.11, SD=0.63, on a 5-point scale). Predominant theoretical orientation CBT, then 'other' (eclectic, mindfulness, MI, humanistic).	Web-based survey.	Collected self-report information on how often models used on a five-point scale (not at all - greatly). Collected self-report information on how helpful models were generally on a five-point scale (not at all - greatly). Collected self-report information on how helpful models were with clients with PTSD on a five-point scale (not at all - greatly). Collected self-report information on the extent to which training was desired in models (not at all - greatly).	Factor Analysis. Correlation. Paired sample t-tests.	More training on all models wanted. The more a model has been used by a clinician the more helpful they rated it.	25/32 Very specific sample and goals (VA members only), limits generalizability to other clinical areas. No discussion of missing data No discussion of power and sample size, important given the large number of tests used. Main author developed one of the models surveyed, possible bias, discussed and acknowledged.

Authors	Participants	Method	Measures	Analysis	Findings	Quality rating based on STROBE and comments
Nelson, T. D. and R. G. Steele (2007)	214 mental health practitioners in the US, recruited via contacting state psychological association heads. Final sample a mix of disciplines - primarily Psychologists of differing qualifications, social workers and other. Diversity of clinical setting and orientation, majority cognitive (59.3%). Inclusion criteria - must spend 25% of professional time in clinical practice.	Web-based survey.	EBP use - measured by single question, 'how often do you use ...?' Training - highest qualification, theoretical orientation and whether they had taken a class in EBP or ESTs. Practitioner attitudes measured by 'positive attitudes towards treatment research scale' (4-items, $\alpha=.76$) and 'negative attitudes towards treatment research scale' (4-items, $\alpha=.74$).	Multiple regression (including mediator analyses).	Practitioner training, perceived openness of clinical setting and participant attitudes (positive and negative) to EBP predicted self-reported EBP use. Negative attitudes to EBP mediated the relationship between participant training and EBP use. Positive and negative attitudes related, but functionally independent.	26/32 Technical difficulties meant 62 participants discounted. No discussion of power or sample size. Group sizes significantly different in preliminary analysis. No explanation of how missing data handled Over-statement of relevance of attitudes - very small β weighting in regression model, likely to have been discounted if hierarchical regression used.
Stewart, R. E. and D. L. Chambless (2007)	2000 participants selected randomly from the APA's division of independent practitioners mailing list. 508 useable responses obtained, effective response rate (25%). Gender roughly equal (54% male, 46% female). 82% educated to PhD level. 88% in private practice. Dominant theoretical orientation cognitive-behavioural (45.4%), followed by psychodynamic (21.9). 19.8% identified as eclectic.	Survey and self-report Random assignment to receive a research summary of evidence-based treatments	Demographic information, Time in clinical practice, hours a week in psychotherapy, employment site, theoretical orientation. Attitudes on Controlled Experimental Research, Typical influences on treatment decisions, Sources used to increase skill and therapy effectiveness, esteem and use of research. EBPAS to measure attitudes. All participants received basic case information of a patient with panic disorder, and were asked to indicate how they would treat the patient, selecting from five therapeutic approaches. Additionally, participants were asked to rate their willingness to seek training in an EST.	ANOVA.	Participants reported that clinical experiences are the biggest influence on their practice, although also reported often consulting literature. Participants who received a research summary were significantly more likely to report using an EST but no more willing to engage in training in the EST.	30/32 Good introduction with clear aims. Validated measure of attitudes to EBPs used and reliability recorded. Pilot to assess response rate and changes needed to survey, improves quality. Detailed discussion of survey development. Power and sample size calculations reported. Generalizability limited due to response rate, acknowledged and discussed.

Authors	Participants	Method	Measures	Analysis	Findings	Quality rating based on STROBE and comments
Stewart, R. E. and D. L. Chambless (2010)	3200 participants selected randomly from APA mailing list of private practice practitioners. 742 useable responses (23%). 80% educated to PhD level. Most common theoretical orientation cognitive-behavioural (39.8%), followed by psychodynamic (28.2), 19.3% identified as eclectic. Sample compared with APA data on private practitioners and found to be representative.	Self-report. Random assignment to receive case study information, research summary or both.	Two primary dependent variables - Positive attitudes and willingness to be trained. Positive attitudes measured by three attitude questions, scored on a 1-10 scale. Willingness to train scored by the difference between participants willingness to train on EST vs. a treatment of their choice.	ANOVA (although not explicitly stated).	Those who received case study evidence showed increased willingness to train and more positive attitudes to an EST. The research evidence showed more positive attitudes to ESTs than baseline but no increase in willingness to train. Findings unaffected by theoretical orientation or research training.	30/32 No discussion of how missing data handled. Power and sample size calculations reported Sample checked against wider sample for representativeness CBT very common, perhaps not the most representative choice for EBP. Workshop training selected to measure willingness to train - evidence exists that it is ineffective.
Stewart, R. E., Chambless, D.L., & Baron, J. (2011)	Participants selected randomly from APA mailing list of private practice practitioners. 1261 usable responses (32% response rate). 83% educated to PhD level. Two most common theoretical orientations CBT (46%) and psychodynamic (23%), 19% identified as eclectic. Sample compared with APA data on private practitioners and found to be representative.	Self-report . Random assignment to high, medium, low time and resources condition for cost of training.	Five section survey 1. Demographics, 2. Definition of ESTs and descriptions of some ESTs for depression, BPD, panic disorder and Bulimia. Asked to select a disorder they would like to attend workshop training in. 3. Randomly assigned workshop scenario, designed to be ecologically valid (high, medium and low demand for cost and time). 4. Indicate likelihood of attendance at workshop. 5. 12 items on positive and negative aspects of ESTs identified from literature review, and their impact on desire to train, agreement indicated on 7-point Likert scale.	Multiple Regression.	No impact of proposed barriers on desire for training in ESTs. Unwillingness to train predicted by time and cost required, followed by objections to the need for training. Psychodynamic and experienced therapists were most likely to object to the need for EST training.	29/32 Detailed introduction and clear aims. Included power analysis and sample size calculations. No discussion of missing data. Sample checked against wider sample of APA members to improve generalizability. US only.

Authors	Participants	Method	Measures	Analysis	Findings	Quality rating based on STROBE and comments
VanderVeen, J. W., <i>et al.</i> (2012)	653 Clinical Psychology graduate students from programs emphasising a scientist-practitioner model. Predominantly female (81.6). No information about clinical experience, no information about program. However, additional information collected regarding program's self-rating of research-orientation. Mean program rating 4.82, SD=1.07 (equivalent to equal emphasis on research and practice, slightly skewed to research).	Web-based survey.	Degree of satisfaction with scientist-practitioner training - 5-point Likert scale (1, very dissatisfied - 5 very satisfied). Self-rating of ability to integrate science and practice with reference to 1 - use of research literature to inform clinical work and 2 - the use of clinical experiences to form research questions and gather data.	Descriptive statistics and correlation.	Majority of respondents satisfied with clinical training . Subjects generally well-informed and confident about science-practitioner model. Over 1/3 participants rarely used evidence-based decisions when selecting treatment or informing clients of treatment options.	29/32 Employed a check to validate participant's ratings of their programmes focus on research. Unclear how missing data was handled, >50% missing data meant participant was excluded but no discussion of how the rest was handled. No discussion of sample size and power. Looked at specific sub-set of training programmes, limiting generalizability. US only, further limiting generalizability.
von Ranson, K. M., Wallace, L.M., & Stevenson, A. (2012)	118 community clinicians working with eating disordered clients (not exclusively). Varied disciplines, 31.4% counselling psychologists, 22.9% social workers, and 10.2% clinical psychologists also nutritionists, nurses, doctors and 23.7% other. Most common primary approach eclectic (43.2%).	Postal survey	Training, psychotherapeutic approaches used, reasons for use of approaches, perceived barriers to use of ESTs	Descriptive statistics	Training in ESTs varied and was limited. Treatment was varied but generally not aligned with EBP guidelines.	25/32 Very diverse sample; good for study purposes but no comparison between professional groups. Descriptive statistics only. Focus on ED may limit generalizability. Did not control for differences in time spent working with ED clients. No discussion of missing data.

Authors	Participants	Method	Measures	Analysis	Findings	Quality rating based on STROBE and comments
Wallace, L. M. and K. M. von Ranson (2012)	Participants were recruited from two international Eating Disorder organisations. Inclusion criteria were 1) must have provided psychotherapy for someone with an eating disorder or 2) must have engaged in research related to eating disorders, both in the 12 months prior to participation. 1297 email invitations were issued, 402 useable responses were obtained, and data from incomplete surveys was included. Predominantly female (n=282), predominantly US or Canada-based (n=264). Participants were classified as clinicians, researchers or researcher-clinicians based on their professional activity.	Web-based study	Use of ESTs in practice for eating disorders and perceived evidence-base for individual psychotherapies.	Descriptive statistics. Chi-Square.	Most providers using some ESTs but often in conjunction with other treatments. Participants with greater involvement in research used more ESTs and had better knowledge of them.	27/32 Very specific sample - limits generalizability outwith Eating Disorders. No discussion of sample size and power; states conservative p-value used instead. Measure of EST not precise enough - some responses were too unclear to categorise treatment used. Not clear why researchers with no clinical involvement were included in the study.

Summary of participants

The majority of studies recruited participants from a variety of different professional groups. Within those studies that looked solely at practitioner psychologists (Stewart & Chambless, 2007; Stewart & Chambless, 2010; Stewart, Chambless & Baron, 2012), there was considerable diversity in the nature of their clinical work and qualifications. Such a wide approach is useful as it provides an adequate snapshot of mental health professionals within the US, where professional roles overlap considerably, but does not necessarily generalise outwith the US. Additionally, as clinical psychologists are the profession arguably best trained in the principles of evidence-based practice, differences could reasonably be expected between their use of evidence-based practice and that of other professions. While such differences are not guaranteed, it seems as though the possibility should have been considered. It would, perhaps, have been difficult to do so, due to the disparity in numbers from different professional groups. However, none of the studies reviewed here reported either consideration or examination of professional group as a potential influence on attitudes to evidence-based practice.

Whilst some of the studies employed good methods of selection to ensure the population they wanted was targeted, a number of the studies did not. For instance, Gaudiano *et al* (2012), recruited participants from a LISTSERV largely dedicated to psychotherapy; this population is likely to be biased and somewhat self-selecting. Additionally, Cook (2010) recruited participants from a list of psychotherapy magazine subscribers, limiting the sample. Whilst there is every possibility that subscribers are representative of the wider population, there were no checks employed to verify this, and as such, the generalizability of the study is limited. Three of the studies reviewed compared their sample characteristics to a wider representative population (APA members) and found the samples to be very similar, which greatly improves the generalizability of their findings (Stewart & Chambless, 2007; Stewart & Chambless, 2010; Stewart, Chambless, & Baron, 2012). Similarly, VanderVeen *et al* employed a check to improve the reliability of participants' ratings of the

research orientation of their training courses, by having them enter the rating the program had received from another source (a handbook for potential students). This strengthens the validity of their findings on the impact of research training on attitudes towards, and use of, evidence-based practice. Luebbe *et al* did not do so, and it is an acknowledged limitation of their study.

Two of the studies reviewed here, Luebbe *et al* (2007) and Wallace & von Ranson (2012), attempted to group participants based on their research interest or experience, but did so differently. Luebbe *et al* (2007) grouped trainees into categories based on what they expected to do post-qualification. It is entirely possible that their responses were based on a number of factors, other than interest in, or aptitude for, research - for example, available employment opportunities or financial circumstance. Wallace & von Ranson (2012) compared researchers, researcher-clinicians and clinicians, categorised according to their activities over the previous 12-months, but did not control for their lifetime experience; there are likely to be differences in outlook between a clinician who becomes involved in research after a long career and a researcher who has never been a clinician. All participants were qualified clinicians. Subsequently, it is difficult to draw conclusions about the differences between clinicians who engage in research and clinicians who do not. There was also variability in what each study counted as engagement in research; this is clearly multi-faceted and perhaps it would have been more useful to consider active engagement in research, maintaining an interest in, and knowledge of research and complete non-engagement.

Summary of methodologies

All studies reviewed here were cross-sectional, including the two studies that involved some experimental manipulation (Stewart & Chambless, 2007; Stewart & Chambless, 2010). In these studies, where a change in the manner that information was presented to clinicians influenced their attitudes to EBP and their desire to train in an EST, the lack of a follow-up makes it impossible to assess whether these changes would be long-lasting or result in a behaviour change in participants' clinical practice. It is acknowledged, that it would be difficult to conduct longitudinal studies in a

manner conducive to meaningful change without significant investment. However, the emphasis on cross-sectional, largely observational methodology results in a clear picture of what clinicians are doing, but provides limited insight into the mechanisms necessary to change it.

Seven of the eleven studies reviewed opted for web-based surveys over postal surveys, this makes comparison difficult. Stewart & Chambless (2007) piloted both a postal and web-based version and found a greater response to the postal survey. However, the seven web-based surveys appeared to have little difficulty in recruitment and completion, with the exception of Nelson & Steele (2007), who reported some technical difficulties. This raises the possibility that there is something different about the participants in the Stewart & Chambless (2007) study, which made them less likely to complete a computer-based survey. Whilst there are advantages and disadvantages of both methods, there are acknowledged differences in respondent characteristics across methods (Yun & Trumbo, 2000). Whilst these differences have previously been shown not to influence response patterns across psychometric measures (Riva, Teruzzi, & Anolli, 2003), in this case, it is not known whether different characteristics would influence clinical behaviour and attitudes.

A limitation shared by all of the studies reviewed was the omission of an explanation of how missing data were handled. While there is a possibility that there were no missing data, this is highly unlikely given the questionnaire-based methodology of the articles. This is a small but significant issue which becomes more significant when it is noted that none of the studies provided information on whether data were missing at random. Given that all of the studies reviewed here were published and peer-reviewed, it is likely that these analyses were conducted. However, this cannot be said for certain. If missing data were not missing at random, this would have considerable impact on the results; for instance, if large numbers of participants were not reporting their theoretical orientation.

Additionally, the calculations for sample size and power were only reported in three studies, all by the same authors (Stewart & Chambless, 2007; 2010; Stewart, Chambless & Baron, 2012). This is less of a problem for those studies only reporting descriptive data. However, for those which reported

further analyses it is questionable. For instance, Wallace and von Ranson (2012), reported that they had applied a conservative p -value of 0.01 to adjust for multiple Pearson's comparisons. The number of comparisons is not reported explicitly, however the number of findings reported in the text is seventeen. Given the number of comparisons relative to the small and non-random sample, this would not be sufficient to control for the possibility of Type 1 error.

Summary of measures

The concepts and variables considered by all of the studies are relatively similar. Each study attempted to assess interest in, or experience of, research as a factor. Additionally, every study addressed education and training and attitudes to EBP. This information was assessed and constructed in very disparate ways across studies. Theoretical orientation information, in particular, was collected differently in most cases. For example, Cook, Biyanova, Elhai, Schnurr & Coyne (2010) and Najavatis, Kivlahan & Kosten (2011), allowed participants to rate their adherence to an orientation from 1-100, for each given orientation, as opposed to Stewart & Chambless (2012), Gaudiano, Brown & Miller (2012) and Nelson & Steele (2007), who requested this information in a forced-choice manner. Stewart & Chambless (2007) did not report how they collected this information, however, from the presentation of results it seems as though it was a forced-choice question. Wallace & von Ranson (2012) did not assess it at all, choosing instead to ask about therapies perceived to be empirically-supported for different eating disorders. Additionally, von Ranson, Wallace & Stevenson (2012) provided a relatively exhaustive list of both theoretical orientations and psychotherapeutic techniques, asking clinicians to select their primary orientation and how often they used it, whilst Najavits, Kivlahan & Kosten (2010) considered mindfulness, eclectic, motivational interviewing and humanistic orientations together in the category 'other'. Studies giving the option to rate adherence found a higher percentage of integrative practice, which is possibly a more realistic picture of clinicians' practice. This disparity in collection and

categorisation methods is a particular difficulty in the literature. Similarly, as discussed previously, attitudes to research are measured differently in each study.

Gaudiano *et al* (2012) and Stewart & Chambless (2007) use validated measures, particularly the Evidence-Based Practice Attitudes Scale (EBPAS, Aarons, 2004) for which they report good reliability statistics. Although this is not yet widely used, the use of consistent and validated measures would greatly improve the quality of the literature and allow for easier comparison of samples.

Data Synthesis

It is interesting to note that in all studies, with the exception of von Ranson, Wallace & Stevenson (2012), the most commonly identified theoretical orientation was CBT. CBT is arguably the psychotherapy most endorsed as an evidence-based treatment, yet, at best, these studies have demonstrated an ambivalent approach to ESTs and EBP by clinicians. Luebbe *et al* (2007) and Vanderveen *et al* (2012), both of whom used clinical psychology trainees as participants, did not ask participants about theoretical orientations; presumably this is due to an assumption that a lack of clinical experience would mean that trainees were unsure of their theoretical orientation. This omission is disappointing however, as an opportunity to assess the impact of programme orientation on trainees' practice was missed.

All studies found variation in EBP use, but generally that EBP was under-used by clinicians. This is in spite of generally positive, if not enthusiastic, attitudes towards EBP. A possible explanation of this is provided by Nelson & Steele (2007), who found that positive and negative attitudes were related but independent, suggesting that the negative attitudes held by clinicians may have a greater influence on practice than the positive attitudes. However, the authors used multiple regression to build their model, and attitudes to EBP had a very small β weighting, suggesting that they may be of little importance.

Stewart & Chambless (2007, 2010, 2012) found that research exposure or experience had little impact on decisions about treatment or training. This contrasts with Luebbe *et al* (2007) , who found that those trainees who identified themselves as likely to engage in predominantly research-oriented careers were more likely to use research literature and evidence-based guidelines to inform practice. Similarly, Wallace & von Ranson (2012) found that those participants actively involved in research, in some instances to the exclusion of clinical work, had significantly better attitudes to the use of EBP with eating disorder clients. It is possible that the tendency of those practitioners with the most interest in research to build careers in research may contribute to the 'gap' between research and practice.

One consistent finding across the studies was that a significant proportion of participants identified themselves as 'eclectic' in their practice. Across all of the studies, 'eclectic', seems to have been used to refer to integrative practice. However, this is not made clear or explicit. Additionally, there is no way of knowing how study respondents defined 'eclectic'. This is of some importance, due to the different connotations in definitions. There is a vast difference between 'dipping' in and out of models and employing a variety of evidence-based techniques in an appropriate and client-centred way. It would have been particularly useful to know exactly how participants viewed their own practice, and on what they based their integration. This is further complicated by the differences in how theoretical orientation was measured across studies.

Only one study, Gaudiano *et al* (2012), examined the effects of reliance on intuition explicitly. However, Stewart & Chambless (2007) and von Ranson, Wallace & Stevenson (2012) also found that clinicians were most likely to make decisions about treatment options based on clinical experience. This is a finding consistent with other literature in the area. This is crucial due to evidence that clinicians relying on their clinical experience are no more likely to predict the best treatment options for their patients than if they relied on research evidence (Garb, 1998). Given Gaudiano *et al*'s finding, it is possible that an over-reliance on intuition amongst a sub-set of clinicians could partially

explain this, without under-valuing the importance of experience. Intuition and clinical judgement are vital components of practice; although proponents propose it as an alternative to EBP (Nathan, Stewart & Dolan, 2000). However, there are those who propose a synergistic relationship between the two, which has the potential to lead to useful and rigorous research (Barkhan & Mellor-Clark, 2003).

Conclusions

The research examined in this review demonstrates that empirically supported therapies are underused by mental health practitioners. There is evidence suggesting that both research dissemination and access to training are factors that influence the likelihood of engagement in EBP. However, it is difficult to draw conclusions about how this would apply beyond the US, for example in the UK, where clinical training is more standardised. It is particularly difficult in terms of research training, largely due to the involvement of professional bodies in the development and accreditation of training programmes. This differs again in other European countries, for example in France, professional bodies hold no responsibility for training courses (Lunt, 2008). This is likely to change, with the development of European guidance on standards for practitioner psychologists, the EuroPsy, however remains fragmented (Lunt, 2011). It is particularly difficult in light of similar rates of non-adoption in the UK and the US, despite differences in training. Further research is required to investigate both the level of adoption of, and attitudes to, EBP within the UK. The studies reviewed in detail here have largely focused more on clinician-level factors which may influence adoption and engagement.

Of these, attitudes to research and engagement with research have been demonstrated to be of some importance, though it is not yet clear to what extent. It is clear, however, that a significant number of practitioners identify themselves as integrative and further exploration of the nature and basis of this is likely to be key to understanding the barriers to EBP.

There is a significant disparity in the methodologies used within the area, particularly with regard to recruitment and targeting of samples and so results must be interpreted with caution. There is a clear need for some unity in the measures used within the area, in particular the use of standardised and validated measures. There is currently little research exploring the different attitudes and practice of the various professional groups who conduct psychological therapies, and less so examining the difference between these groups in different clinical settings. In the literature reviewed here, there is a trend towards investigating practice amongst private practitioners who may have different characteristics to those working in community, hospital or other public sector medical settings. Psychologists are largely at the forefront of the movement towards EBP in psychology and psychological therapies and in a strong position to influence organisational context through becoming opinion leaders. It would therefore seem particularly important to gain an understanding of their use of, and attitudes to EBP, as well as a thorough understanding of the factors that influence it. Despite the fact that clinical psychology is the mental health profession most identified as having a scientific basis, there is little evidence that most practice is based on scientific principles. The reasons for this are as yet unclear, but it is apparent that the situation has to change. How this can be achieved is not yet known, although suggestions have been made for the US to adopt stricter licensing regulations around evidence-based practice and for a reform of US training courses (Baker, McFall & Shoham, 2008). Whilst this would not change the practice of clinicians outside of the US, it would at least be a step in the right direction. In the UK this has been acknowledged to some extent, with training to competence in CBT being included in criteria for accreditation of clinical psychology training programmes (BPS, 2010). Given the well-documented struggle of psychology to be respected as a valuable and clinically useful healthcare discipline, the wide-spread lack of adherence to the discipline's core strength is troubling. A shift in the culture of clinical psychology is required, with an emphasis on moving back to the science of the profession, for the benefit of the profession, clinicians, services, and the clients who require them.

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Chapter II– Trainee Psychologists' Attitudes to Evidence-Based Practice and the Effects of Different Methods of Dissemination

The empirical paper presented in this section is aimed at publication in Implementation Sciences and follows the author guidelines and referencing styles of that publication (Appendix 3). For ease of reading, all tables and figures are included of the main body of the text and appendices are referred to.

Trainee Psychologists' Attitudes to Evidence-Based Practice and the Effects of Different Methods of
Dissemination

Abstract

Background It has been repeatedly demonstrated that clinicians do not always use evidence-based therapies with their clients and rely heavily on clinical judgement. This has implications for dissemination methods in improving implementation. Family Interventions in psychosis is one evidence-based therapy which is not widely used. It was hypothesised that UK trainee clinical psychologists would be more open to using family intervention in psychosis if outcome results were presented with a case study. Additionally, this study explored the effect of pre-existing attitudes to Evidence Based Practice (EBP) on trainees' attitudes to family intervention and willingness to train.

Methods Participants (N=104) were randomly assigned to receive a research review of family intervention in psychosis, a case study of family intervention with a fictitious patient with psychosis, or both.

Results Those receiving the combined condition showed a greater willingness to train in family intervention; research or case study evidence alone did not cause a significant change in attitudes or willingness to train. Pre-existing attitudes to EBP were a moderate predictor of openness to family intervention.

Conclusions Results are discussed with reference to implications for training and dissemination.

Trainee Psychologists' Attitudes to Evidence-Based Practice and the Effects of Different Methods of Dissemination

Introduction

Evidence-based practice (EBP) is a current and important topic amongst mental health professionals. It has been the subject of a considerable body of research due to the fact that it is not practiced as often as would be expected [1]. There is a growing body of evidence suggesting that empirically supported treatments (ESTs) have not been successfully promoted in terms of clinical practice [2,3], however there is an acknowledged gap in knowledge to explain why this is the case [4]

Why don't clinicians routinely engage in evidence-based practice? Training has been considered to be important; however randomised trials of training for EBP in mental health have demonstrated that training workshops are not sufficient to ensure that clinicians work to adequate levels of competence [5]. Given the difficulty in clinicians accessing training through the workplace and the fact that the majority of training opportunities are offered in workshop format, this presents a problem. In addition to concerns about the effectiveness of training when it is provided, there are questions about how to interest practitioners in training in the first place. One of the first necessary steps might be to increase knowledge about the effectiveness of interventions.

There is an acknowledged gap between research and practice [6]. The manner in which research is approached has been identified as being crucial to explaining the research-practice gap [7]. Researchers have tended to write primarily for the benefit of other researchers and furthering academic knowledge [8,9], often under the assumption that evidence-based approaches will be adopted by practicing clinicians with little further effort [10]. This approach, 'diffusion', has so far been unsuccessful at increasing adoption. Although a more active, out-reach based and active approach to dissemination has been advocated [11] this is still very much in its infancy. Early attempts have indicated that less traditional methods of dissemination can be effective in increasing knowledge and positive attitudes to research-based treatments and findings [12]. There is currently little evidence that this effect can be translated into changes in clinical practice or willingness to engage in further training.

The focus on changing dissemination methods does not imply that the research-practice gap is solely the responsibility of researchers – there is substantial evidence that clinicians place preferential weight on their own clinical experience when deciding what treatment to offer service-users [13].

Clinical judgement may be a valuable tool, but it is not infallible; clinical judgements have consistently been demonstrated to be unreliable on their own [14-16]. Additionally, clinicians place more weight on information from clinician colleagues than from research articles or books [17,18]. This tendency seems to increase as clinical experience and confidence grows, clinical psychologists with the highest levels of clinical experience reporting significantly lower levels of evidence-based practice in their clinics [19].

Researchers' emphasis on writing for other researchers, and the tendency of clinicians to privilege clinical judgement over research evidence, have been highlighted as areas which need to be changed; however, more pragmatic approaches have been proposed which suggest appealing to both camps. The divisive nature of traditional Randomised Controlled Trials (RCT) approaches to therapy evaluation has been addressed, with some proposing that case studies be integrated into research design and considered when evaluating outcomes, alleviating the concerns of practitioners about the real-world utility of different therapeutic approaches while allowing different mechanisms of change to be considered and discussed [20]. There is clearly much to be gained from such an approach, however, currently this type of integrated research-practice evidence is in short supply. The rise of research-practice networks has been a useful step towards integration, whereby clinicians are consulted on different stages of research projects [21], however this does not address the manner in which research is most widely disseminated.

Stuart & Chambless (2010) investigated the impact of different methods of information dissemination on clinicians' attitudes to, and willingness to train in CBT for Bulimia. CBT for Bulimia was selected due to its strong evidence-base [22]. Participants were allocated randomly to one of four conditions and received either minimal information about a fictitious client; a summary of research evidence supporting the use of CBT when working with people with Bulimia; a session by session case study of a fictitious client receiving CBT for Bulimia; or both the research summary and case study. The combined group reported significantly better attitudes to CBT for Bulimia and a greater willingness to train than participants in the research only condition. Research evidence alone did change attitudes to CBT for Bulimia positively but this did not translate to an intention to change practice. Their findings lend further support to the utility of combining research and clinical evidence to increase clinician adoption of evidence-based therapies. This study was conducted on US psychologists, where training and qualifications are less standardised than in the UK. Additionally, the study did not consider any potential effect of participants' pre-existing attitudes to research and evidence-based practice which may have influenced participants' reactions to the information they viewed.

Family intervention in psychosis is proven to be effective in managing symptoms, preventing relapse, and improving psychological well-being [23]. It is a recommended psychological treatment for first-episode psychosis [24]. Despite this and a strong evidence-base, it is still not widely used in clinical practice [25]. Individually administered cognitive behavioural therapy (CBT) remains the dominant psychological intervention for psychosis, if a psychological intervention is even offered [26].

It is clear that family intervention in psychosis is under-employed, but the reasons behind this are not fully understood, although lack of training has been implicated [27]. Previous research has shown that increased access to training may have little effect on implementation, although the literature examining the effects of training on positive changes in practice is limited, with many studies instead examining the impact of training on attitudes or knowledge. A survey of 86 therapists who had completed training in Behavioural Family Therapy revealed that although 70% of those surveyed had used the approach, the mean number of families seen by each therapist was only 1.7; furthermore, a substantial proportion of those implementing family work were doing so in their own time, outside normal working hours [28]. Respondents had also been asked to express any difficulties they had encountered in implementation – they indicated a combination of service-related barriers and particular difficulties perceived as associated with family work. Other research has noted that 100% of staff who had received family intervention training continued to use family intervention in their clinical practice, with 80% reporting little difficulty [29]. However, this involved a one year multi-disciplinary training programme embedded in one local service and supported by the mental health trust involved.

Rationale and aims

The aim of the study was to assess attitudes to evidence-based practice in current clinical psychology trainees enrolled in UK training programmes, using the example of family intervention for psychosis and an extension of the methodology adopted by Stuart & Chambless (2010). Trainees were selected as evidence-based practice is a particular focus of clinical psychologists and is central to clinical psychology training in the UK [30]. Indeed it is currently a condition of practice; standard 2b.4 of the HCPC's Standards of Proficiency for Practitioner Psychologists includes (for clinical psychologists) – *“be able to implement therapeutic interventions based on a range of evidence-based models of formal psychological therapy, including the use of cognitive behavioural therapy”* [31]

Given this, and the fact that the scientist-practitioner model is central to clinical psychology practice, the profession of clinical psychology is well-placed to take the lead in the implementation of EBP in mental health services. In the case of family intervention in psychosis, and other

empirically-supported therapies, this has not been the case. The reasons for this need to be explored further, with one possibility being a problem in the training process for clinical psychologists. Additionally, research has shown that practitioner psychologists with many years of experience are likely to have well-established methods of practice and be less open to EBP [19]; trainees may be more open to modifying their practice and attitudes. The present study aimed to assess the impact of different dissemination methods on trainee attitudes to the use of family interventions, with the hypothesis that combining research evidence and case study material would improve attitudes to family intervention and willingness to train in family intervention more than research evidence alone. Finally, the study aimed to examine trainees' pre-existing attitudes to EBP in relation to their attitudes to family intervention in psychosis and their willingness to engage in training to use it.

Methods

Participants

After receiving ethical approval, Programme Directors from the 30 UK Doctoral Clinical Psychology training courses were contacted requesting permission to approach trainees on their programmes. Of these, 23 consented (full list provided in Appendix 2), six did not reply and one did not give permission. No other method of recruitment was used. An email was sent to trainees on consenting programmes via their programme administrators giving basic information about the survey with a link to the online study. No reminder emails were sent. All survey responses were collected using PsychSurveys.org and were randomly allocated to conditions upon entering the survey site.

A total of 183 trainees looked at the survey with 104 of them completing it. All survey responses were usable with no missing data. The analyses reported here are based on the 104 completed surveys. The required sample size to achieve a power of 0.80 was estimated using GPower 3 [32] as 76, assuming a small effect size (0.15) and an alpha significance level of 0.05 indicating that the study sample was sufficient.

Materials

Study software Survey responses were collected using Psychsurveys.org. This software allows for random allocation of participants and counter-balancing. All data are encrypted in transmission using Secure Socket Layer (SSL), both when survey participants fill out surveys and when survey creators download their data.

Survey The online survey was nine pages long, took on average 20 minutes to complete, and comprised of various sections (Appendix 4). Section One (Appendix 4, page 103-104) focused on demographic information as well as prior knowledge and experience. Participants' age, gender, region of training course and highest degree obtained were recorded. Participants' research knowledge was assessed by enquiring about previous research experience and asking them to rate their confidence in understanding and interpreting research evidence on a 100-point scale.

Previous clinical experience and knowledge were assessed by asking participants to record their level and type of experience with psychosis prior to entering clinical training; participants were also asked to record their level of experience since commencing training. Theoretical orientation was not included as a survey item. It was felt that trainees may not be in a position to identify themselves as being of a given therapeutic orientation and would be unlikely to have considerable experience even if they could; however, participants were asked to rate their level of experience with a number of different therapies.

Evidence-Based Practice Attitudes Scale The second section measured participants' attitudes to evidence-based practice in general, using the Evidence-Based Practice Attitudes Scale [33], modified to make items more relevant to clinical psychology practice in the UK (Appendix 4, page 105). The EBPAS assesses attitudes to evidence-based practice on an individual and systemic level, by including items related to individual perception of evidence-based practice, as well as items relating to organisational culture and requirements of line management and regulatory bodies. The scale has been found to be reliable. Internal consistency for the current study was $\alpha=0.80$. Items are scored on four subscales, all of which have reasonable reliability - Requirements, the likelihood of adopting EBP if required to do so (3 items; $\alpha=0.95$); Appeal, the intuitive appeal of EBP (4 items; $\alpha = 0.86$); Openness, openness to new practice (4 items; $\alpha=0.62$) and Divergence, perceived divergence of usual practice from research-based interventions (4 items; $\alpha=0.65$).

Description of history and symptoms (Minimal information) A brief description of a fictitious client with psychosis was provided in the form of a clinical vignette (Appendix 4, page 106).

Research summary and Case study A summary of the body of evidence for categorising family intervention in psychosis as an evidence-based treatment was provided (Appendix 4, page 117). A case study of a fictitious patient treated with family intervention was also provided (Appendix 4, page 107). This included a session-by-session breakdown and a brief discussion of patient outcomes. The case study and research summary were developed largely by one of the authors (WS), who had significant clinical and research experience within the area of family intervention in psychosis.

Dependent Measures The *attitudes to family intervention for psychosis* score was derived from summing participant responses to three items assessing their perception of the appropriateness of family intervention, the effectiveness of family intervention and how likely they are to use family intervention if suitably trained. The three questions were scored on a 10 -point Likert scale, giving a minimum score of three and a maximum score of 30.

The *willingness to train* score was derived from participants' willingness to engage in home-study and workshop training in FI. These questions were scored on the same 10-point Likert scale, with responses ranging from extremely unlikely to extremely likely. Items were summed giving a lowest of two and a highest possible score of 20 for the total measure. The dependent measures questionnaire is provided in Appendix 4, page 123-125.

Design

Different dissemination modalities Four conditions were included in the survey. A minimal information (baseline) condition, where participants were presented with some basic information about a client; A case-only condition, where participants were presented with a session-by-session case study of family intervention with a client with psychosis; A research-only condition, where participants were presented with a review summary of evidence into the use of family intervention in psychosis; and a case and research condition, where participants were presented with both the case information and the research summary. The order of presentation was counter-balanced to eliminate order effects. The case study and research summary were developed largely by one of the authors (WS), who had significant clinical and research experience within the area of family intervention in psychosis.

Data analysis. Data were analysed using MANOVA to detect a main effect of condition, with post hoc tests conducted to test for differences between conditions. Multiple regression was used to test the relationship between EBPAS scores and trainees' attitudes to family intervention and their willingness to engage in further training. Qualitative data were analysed using thematic analysis [34]. Data analysis was inductive, aiming to identify themes that emerged across the whole data set. Data were downloaded from the survey website with each participant's response numbered. An initial read-through of the data was conducted, with initial coding notes recorded in NVIVO. Following this, the coded data was examined again, with codes that appeared related to each other being linked and codes that were redundant (i.e. did not appear across a significant portion of the data) were dropped. From this, a thematic map of the data was created and final themes identified.

Procedure

All participants were randomly allocated to one of the four conditions when they entered the study site. Participants were presented with information about the study first, followed by demographic questions and questions about previous experience in different therapies, clients with psychosis and research and the standardised measure of attitudes to EBP. Following this, all conditions viewed the minimal information study of the fictitious client followed by the materials for the condition they were assigned to. Participants then completed the dependent measures. The version of the survey viewed by participants in each condition is summarised in Table 2 below.

Table 2 Description of questionnaire types by group

Section	Version 1 Combined	Version 2 Research only	Version 3 Case only	Version 4 Minimal information
1. Demographics	✓	✓	✓	✓
2. Description of history and symptoms	✓	✓	✓	✓
3. Evidence-Based Practice Attitudes Scale	✓	✓	✓	✓
4. Family intervention statistical summary (statistics)	✓	✓		
5. Case study of treatment with Family intervention (case)	✓		✓	
6. Dependent measures	✓	✓	✓	✓

Results

Participant demographic data and self-reported experience of clients with psychosis is reported in Table 3 overleaf.

Table 3 Participant demographics and self-reported experience of research and clients with psychosis before and during training, by condition.

	Mean				S.D			
	Baseline	Case	Research only	Combined	Baseline	Case only	Research only	Combined
Age	28.96	28.62	30.68	27.71	4.02	4.55	3.95	3.07
Self-rated research competence	55.56	59.65	59.28	57.35	24.22	14.84	18.94	21.77
Percentage								
					Baseline	Case only	Research only	Combined
Gender	Male				8	11.5	20	10.7
	Female				92	88.5	80	89.3
Region of training	Scotland				4	3.8	4	0
	North-West England				24	34.6	24	35.7
	North-East England				4	11.5	16	3.6
	East Midlands				8	3.8	0	3.6
	East of England				0	0	4	0
	West Midlands				8	7.7	12	10.7
	Greater London				24	19.2	24	28.6
	South-East England				16	11.5	12	14.3
	South Wales				4	7.7	0	3.6
	North Ireland				8	0	4	0
Experience with psychosis pre-training	No experience				28	42	52	25
	Limited experience				32	26.9	32	32.1
	Medium level of experience				32	26.9	12	39.3
	High level of experience				8	3.8	4	3.6
Experience with psychosis while training	No experience				28	34.6	36	39.3
	Limited experience				48	38.5	28	39.3
	Medium level of experience				12	15.4	28	21.4
	High level of experience				12	11.5	8	0
Highest level of previous research experience	Undergraduate dissertation				20	26.9	28	35.7
	Masters dissertation				40	30.8	28	35.7
	Research assistant post				32	34.6	32	25
	PhD				4	3.8	12	3.6
	Other				4	3.8	0	0
Cognitive Behavioural Therapy	Little or no experience				4	3.8	0	0
	Medium level of experience				56	46.2	56	50
	High level of experience				40	50	44	50
Interpersonal Therapy	Little or no experience				92	88.5	96	96.4
	Medium level of experience				8	11.5	4	3.6
	High level of experience				0	0	0	0
Cognitive Analytic Therapy	Little or no experience				68	69.2	76	78.6
	Medium level of experience				32	26.9	16	21.4
	High level of experience				0	0	8	0
Psychodynamic Therapy	Little or no experience				68	88.5	60	78.6
	Medium level of experience				28	11.5	36	21.4
	High level of experience				4	0	4	0
Narrative Therapy	Little or no experience				52	65.4	56	67.9
	Medium level of experience				48	34.6	40	32.1
	High level of experience				0	0	4	0
Acceptance and Commitment Therapy	Little or no experience				80	65.4	64	89.3
	Medium level of experience				20	30.8	28	10.7
	High level of experience				100	3.8	8	0
Systemic/Family Therapy	Little or no experience				24	30.8	36	71.4
	Medium level of experience				68	65.4	60	28.6
	High level of experience				8	3.8	4	0

Most participants were women, which is representative of the known demographics of clinical psychology trainees [35]. All UK regions were represented; although the majority of respondents were from the North West and Greater London regions, this is not unexpected given the number of training centres in these regions. The majority of participants indicated having either no or limited experience with clients with psychosis, both prior to, and during, training. The majority of participants had some post-graduate experience, with the most common being masters-level research dissertations. Interestingly, this was not reflected in participants' own ratings of their competency in understanding and critiquing research, which were skewed towards the lower end of the scale.

Participants' ratings of their experience of therapeutic models indicated that CBT was the dominant model that trainees had been exposed to, with only two percent of the total sample indicating that they had little or no experience in the model; this is congruent with UK course accreditation criteria. Family and systemic interventions were the next model, with over half of all participants indicating that they had a moderate level of experience in these techniques; however, 40 per cent of participants indicated that they had little or no experience. Trainees were relatively inexperienced with the other models, with most reporting little or no experience.

Effect of dissemination method on attitudes to Family Intervention and Willingness to train

A one-way MANOVA was conducted to assess the impact of the different conditions on both willingness to train and attitudes to family intervention. Assumption checking revealed that the data for willingness to train were not normally distributed in the baseline, case-study only and combined conditions and that attitudes to family intervention were not normally distributed in the case only and combined conditions, as tested by Shapiro-Wilkes test. However, the F statistic is fairly robust to violations of normality, assuming that group sizes are equal. There was a correlation between the dependent variables ($r=.58$, $p<0.0001$) which indicated collinearity, however this correlation was not large enough to cause concern [36]. There were no univariate or multivariate outliers, as assessed by boxplot and Mahalanobis distance ($p>.001$), respectively; there were linear relationships as assessed by scatterplot. Variances were homogenous, as assessed by Levene's Test of Homogeneity of Variance ($p > .05$) and homogeneity of variance-covariances matrices, as assessed by Box's test of equality of covariance matrices ($p = .316$). Assumption checking is reported in Appendix 5. Descriptive statistics were calculated using SPSS and are shown in Table 4.

Table 4 Means and SD for Willingness to train in family intervention and attitudes to family intervention by condition

	Condition	Mean	Std. Deviation	N
Willingness to Train	Minimal information	12.68	3.60	25
	Case study only	12.96	3.85	26
	Research only	12.40	3.28	25
	Combined	14.32	3.04	28
	Total	13.13	3.48	104
Attitudes to Family Intervention	Minimal information	20.56	3.19	25
	Case study only	21.12	3.95	26
	Research only	20.60	3.55	25
	Combined	22.14	3.55	28
	Total	21.13	3.58	104

Participants in the combined condition scored higher on both attitudes to family intervention and willingness to train ($M = 22.14$, $SD = 3.55$ and $M = 14.32$, $SD = 3.04$) than participants in the research only ($M = 20.60$, $SD = 3.55$, $M = 12.40$, $SD = 3.28$) or case study only ($M = 21.12$, $SD = 3.95$, $M = 12.96$, $SD = 3.85$) conditions. Participants in the research only condition scored similarly to the baseline condition ($M = 20.60$, $SD = 3.55$ and $M = 20.56$, $SD = 3.19$, respectively) on attitudes to family intervention. On the willingness to train measure, participants in the research only condition scored lower than participants in the baseline condition ($M = 12.40$, $SD = 3.28$ and $M = 12.68$, $SD = 3.60$). The differences between the conditions on the combined dependent variables was not statistically significant, $F(6, 200) = .909$, $p > .05$; Wilks' $\Lambda = .947$; partial $\eta^2 = .027$.

In order to test the hypothesis that adding case study information to research evidence would increase willingness to train and attitudes to family intervention, post-hoc LSD tests were conducted and are shown in Table 5.

Table 5 Post-hoc tests of dependent variables by condition

Dependent Variables			Mean Difference (I-J)	Std. Error	Significance	95% Confidence Interval	
						Lower Bound	Upper Bound
Willingness to train	Baseline	Case study only	-0.28	0.97	.771	-2.20	1.64
		Research only	0.28	0.98	.775	-1.66	2.22
		Combined	-1.64	0.95	.087	-3.53	0.24
	Case only	Research only	0.56	0.97	.563	-1.36	2.48
		Combined	-1.36	0.94	.151	-3.22	0.50
	Research only	Combined	-1.92*	0.95	.046	-3.81	-0.04
Attitudes to family intervention	Baseline	Case only	-0.56	1.00	.580	-2.54	1.43
		Research only	-0.04	1.01	.969	-2.04	1.96
		Combined	-1.58	0.98	.111	-3.53	0.37
	Case only	Research only	0.52	1.00	.608	-1.47	2.50
		Combined	-1.03	0.97	.294	-2.96	0.90
	Research only	Combined	-1.54	0.98	.120	-3.49	0.41

* indicates the result is significant, $p < .05$

LSD post-hoc tests showed that for willingness to train, participants in the combined condition scored significantly higher than those in the research only condition, although the difference was slight. Participants in the combined condition scored higher than those in the case only condition; however, this difference was not significant. There were no significant differences between the conditions for attitudes to family intervention, although participants in the combined categories scored the highest.

EBPAS and attitudes to Family intervention and willingness to train

In order to assess whether it was possible to predict trainees' attitudes to family intervention and their willingness to train from their attitudes to evidence-based practice in general, two regression analyses were conducted. First, correlations were conducted to assess whether a relationship was present (Appendix 6). A moderate correlation was observed between willingness to train and the Openness subscale of the EBPAS ($r = .29$, $p = .004$). Attitudes to family intervention was moderately correlated with the requirements subscale ($r = .31$, $p = .002$), the Openness subscale ($r = .43$, $p < .001$) and the appeal subscale ($r = .34$, $p = .001$). Significant correlations were then entered into regression analyses as predictors. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met (Appendix 6).

A multiple regression indicated that both the requirements scale and the openness subscale of the EBPAS were significant predictors of attitudes to family intervention in psychosis, $F(3, 97) = 10.025$, $p < .0001$, adj. $R^2 = .24$. Regression coefficients and standard errors can be found in Table 6.

Table 6 Summary of multiple regression of EBPAS subscales and Attitudes to family intervention

	B	SEB	β
Intercept	9.923	2.074	
EBPAS - requirements subscale	.284	.158	0.191*
EBPAS - Appeal subscale	.110	.153	.083
EBPAS - Openness subscale	.597	.169	0.349*

* $p < .05$, B = unstandardized regression coefficient; SEB = standard error of the coefficient;
 β = standardized coefficient

The openness subscale of the EBPAS was a significant predictor of trainees' willingness to train in family intervention for psychosis, $F(1,99)=8.911$, $p=.004$, adj. $R^2=.07$, although the effect size was very small. Regression coefficients and standard errors can be found in Table 7 below.

Table 7 Summary of linear regression of EBPAS subscales and Willingness to train in family intervention

	B	SEB	β
Intercept	7.585	1.902	
EBPAS - Openness subscale	.467	.156	0.287*

* $p < .05$, B = unstandardized regression coefficient; SEB = standard error of the coefficient;
 β = standardized coefficient

Views of participants on Family Intervention in psychosis

The final survey question, 'We are interested in your views of using Family Interventions when working with clients who have psychosis. Please use the space below to give your views on why you would or would not use family interventions' was included to give the opportunity to further explore trainees' views on the use of family intervention with service-users' with psychosis. Participants were not required to answer this question; however, 48 contributed their views (Appendix 8). A thematic analysis of these responses was conducted using the approach outlined by Braun & Clarke [34], with findings illustrated in Figure 2 overleaf.

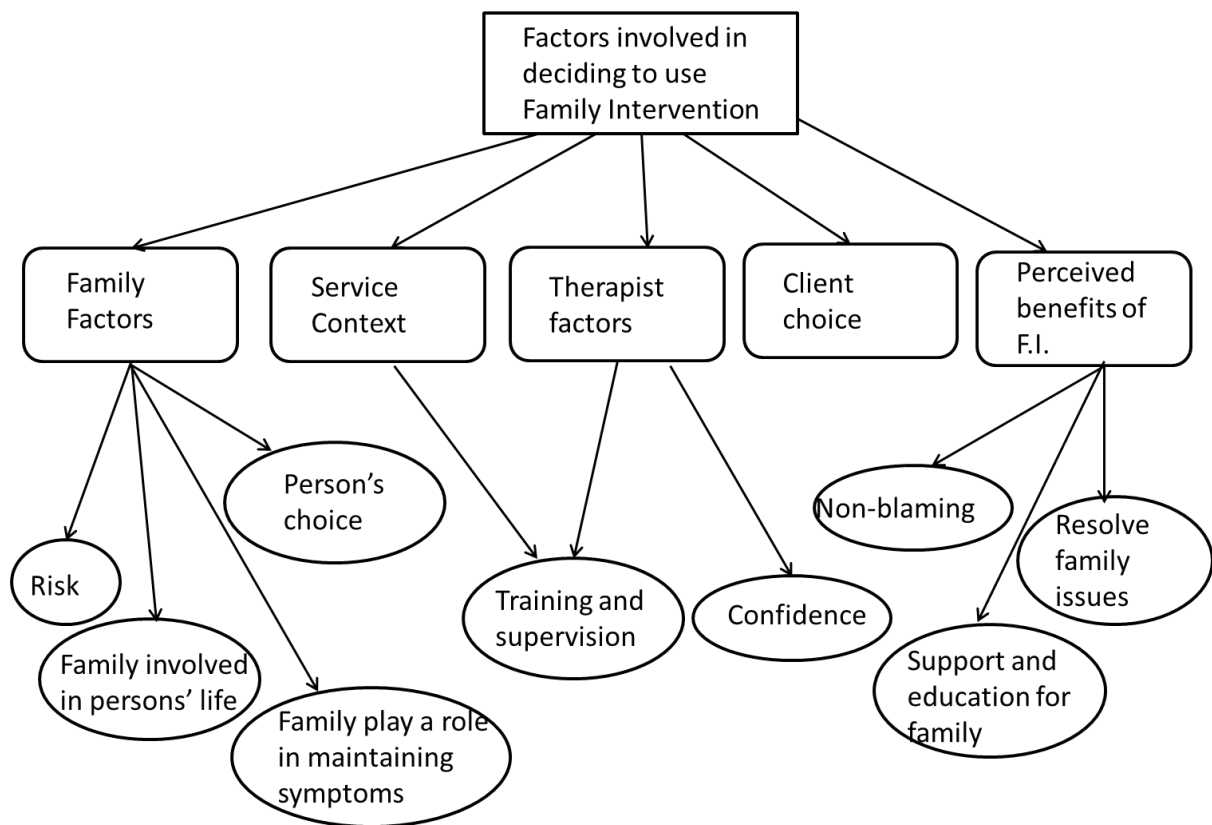


Figure 2 Themes present in participants' responses to being asked their views on family intervention for psychosis

Overall, participants' responses were encouraging; the majority indicated that they would use family interventions in psychosis where appropriate. Five themes emerged, representing the factors involved in deciding whether to use family intervention with a client. Participants emphasised that central to the decision would be the client's feelings about the intervention. Many participants cited perceived benefits of family intervention as factors in their decision to use it; benefits emerged under three sub-themes focusing on the perception that family intervention is non-blaming for the client, the opportunity to resolve family issues and on supporting and educating the family.

Individual family factors were also well-considered in participants' responses; with three sub-themes emerging from this. Participants considered family involvement to be a pre-requisite for engaging in family intervention, noting that the person's family would have to be involved in their life and also willing to engage in their treatment. A number of participants indicated that they would consider using family intervention where the family played a role in maintaining symptoms, either through reinforcing them inadvertently, or by family dynamics acting as a source of stress, exacerbating symptoms. Finally, participants showed a good awareness of where family intervention would not be appropriate, when involving the family would increase the risk to the client, for instance where there was abuse within the family.

Whilst the views expressed by the majority of respondents were positive, two themes relating to therapies and service factors were predominantly focused on barriers to the use of family

intervention. Participants felt that they were lacking confidence to use family intervention and would find it difficult to employ. Additionally, many expressed a need for training and supervision to be able to use the technique. Finally, some participants referenced the impact of service context, commenting that many services are set up to offer individual work only and often highlighting some specific examples of services where they felt family intervention would have been useful but not permitted.

Discussion

This study aimed to assess attitudes to EBP in clinical psychology trainees enrolled on UK training programmes. It explored the impact of changing dissemination methods, using the example of family intervention for psychosis and an extension of the methodology adopted by Stuart & Chambless (2010). The findings indicate that within this population, changing the method of dissemination had little impact on either attitudes to family intervention or the likelihood that participants would engage in training. Post hoc tests showed that combining case and research evidence increased willingness to train but not attitudes to family intervention. This differs slightly from Stuart & Chambless (2010), who found that participants presented with case study and research evidence demonstrated significantly more positive attitudes to CBT for Bulimia and a greater willingness to train than those presented with research evidence only, and also that research evidence alone increased participants' attitudes to CBT for Bulimia but did not increase willingness to train.

Participants were overwhelmingly positive towards family intervention in psychosis, regardless of the information presented to them in the study. This suggests that UK trainee clinical psychologists are aware of the benefits and uses of family intervention in psychosis and perhaps there was little room to make their attitudes more positive. Trainees did indicate a reasonable level of experience with systemic and family interventions, so it is possible that this meant that the mode of dissemination had little impact on them due to their pre-existing knowledge being greater than the knowledge they could have gained from either the case study material or from the research summary.

As recruitment sampled trainees from the majority of UK clinical psychology training courses, it can be assumed that it is reasonably representative of UK trainee clinical psychologists, although the majority of respondents came from courses in North-West England and Greater London. Trainee psychologists are in a protected position with regards to clinical caseload and organisational pressures, and so it cannot be said with any certainty that these results would be reflected if the study was conducted with qualified clinical psychologists. Differences in specific clinical experiences in clinical psychologists are likely to be considerably more apparent than in trainees due to greater

career length, which may affect attitudes to evidence-based practice in general, and family intervention specifically.

That participants had the most experience working with CBT was not unexpected, but has implications for training and knowledge enhancement. It was not possible to tell whether participants had gained their knowledge and experience of CBT prior to beginning training, during the course or a combination of both. It may be that trainees have most exposure to CBT-oriented placements and supervision as there are more of them available. It is possible that this is reflective of the mode of work of qualified clinical psychologists (Lucock, Hall & Noble, 2006) as well as the requirements of training programmes. However, it is possible that the way to interest future clinicians in different therapeutic modalities lies in changing the balance of orientations they are exposed to during training.

The finding that attitudes to EBP in general were indicative of attitudes to family intervention and willingness to train is not surprising. However, the finding that openness was the best predictor, both of willingness to train and attitudes to family intervention, implies that it may be an important focus for future research. If openness can be changed or developed, perhaps through exposure to a wide variety of therapies, this could have implications for training courses. The requirements subscale was a strong predictor of attitudes; this may be more pronounced in a trainee population due to a desire to perform well in training, but if this finding were replicated with qualified psychologists, it may indicate a role for stricter governance on the therapies that should be offered within services. The current system of advisory guidance is useful and helpful for therapists but does not offer a strong incentive for services to ensure that a full range of effective treatments is made available to clients.

Given the wholly positive attitudes to family intervention in psychosis reported by the participants in the current study, future studies would perhaps benefit from examining EBP using a different or novel therapy as an example, given that the participants' pre-existing knowledge may have been too high to have been affected by the information presented to them. These positive attitudes also suggest that the low uptake of such interventions has little to do with clinicians' perceptions of their efficacy or usefulness. Participants repeatedly referenced lack of training and confidence as a barrier to using family interventions in their clinical practice. To a certain extent, this may have been expected from a trainee sample; however, there are likely to be a large number of practicing psychologists who have not accessed training. As previous research has indicated that training does not necessarily lead to uptake [28], it is likely that the answer, at least partially, lies in the manner in which services are set-up and geared towards individual therapies, with previous research showing that successful training interventions require extensive support and investment from services [29].

This barrier is unlikely to be removed by influencing clinicians' perspectives, but rather by increasing awareness of the evidence at commissioning level.

The study is not without limitations. First, although the sample size yielded adequate power, it was not particularly large. This could have been improved by the provision of reminder emails, however as recruitment was facilitated by programme administrative teams, it was felt that this would have been an unfair burden to place on them. The use of willingness to train as an outcome measure may not have been the most appropriate to use with this population, as it is clear that there were a variety of different budgets available to trainees for training and that many responses indicated limitations as either a result of these budgets or as a function of limited time due to course and placement requirements. Additionally, trainee clinical psychologists are likely to seek training in areas that are relevant to their current clinical placements and employment settings and may not consider other areas of training until they have qualified. Asking participants to answer the questions about their willingness to train post-qualification may have yielded different responses.

Although the survey asked about experience of clients with psychosis pre-training and during training, it did not ask respondents to enter their *stage* of training. Generalisability may therefore be limited, as one would expect the experience of a final-year trainee to be very different from that of someone entering training. This was also a missed opportunity to assess the impact, if any, of the training experience on attitudes to evidence-based practice. Future research with this population should seek to address these issues. Additionally, the survey did not explicitly ask about experiences working with families or informal caregivers; whilst some participants may have considered this when indicating their experience of systemic working, work with informal caregivers would have given participants a greater understanding of the needs of families and may have been a predictor of attitudes to family intervention. The completion rate for the study, whilst not unusual for an online survey, was not particularly high. A total of 78 participants looked at the study but did not complete it, which may indicate that the survey was too long or required too much reading. It would have been helpful to collect feedback from those participants who did not complete it about their opinions on the survey to inform future research. It is also not possible to know whether this is a true measure of completion, as there was nothing to prevent participants from looking at the survey once for information and completing it again later.

This study highlights the need for more research into evidence-based practice in psychologists and also into the reasons behind the low uptake of family intervention in psychosis. As psychologists are supposed to be scientist-practitioners, invested and proficient in using EBP (BPS, 2010), the findings that case study evidence increased the impact of research evidence is important. As participants were trainee psychologists, who are assessed on their use of research evidence, it could be

reasonably expected that they would be less susceptible to the impact of clinically-oriented evidence.

Future research into family intervention practice in clinical psychologists would be best focused on qualified staff, ideally focusing on specific specialties, in which working psychologists will have a greater understanding of the issues specific to the population in need of a service. This study indicates that dissemination methods are of less importance within a UK-trained population of trainee psychologists, therefore future research would be best focused on different factors known to influence adoption – for instance, the impact of organisational factors, including the organisational attitude to EBP (Aarons, 2004) and the effect of limited resources and training availability. Qualitative methodology may be best placed to fully explore the issues impacting psychologists' use of family intervention in psychosis. However, further research is also needed to explore the impact of dissemination on EBP in other professions; given that psychologists, with their extensive research training are more likely to value clinical information, this effect could be heightened in other practitioners, for whom research is not an integral part of their practice.

The finding that combining research and clinical evidence led to an increase in willingness to train in family intervention in psychosis is an important one and has implications for research dissemination strategies, providing small support for dissemination models promoting the integration of case study information with research trial findings. Additionally, there are implications for clinical training on evidence-based practice. Clearly, there is value in both clinical and research evidence and a training approach which utilises both, as this is likely to lead to psychologists who are more able and willing to bridge the gap.

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Chapter III – Concluding chapter

This chapter is comprised of three sub-sections. Section A comprises a general discussion and overview of the current research, focusing on its implications for training, research and clinical practice along with strengths and limitations. Following on from this, section B presents a proposal for a future study, building on the findings and methodology of the current research. Section C is an alternative format of the study, written as a report of the current research in a format intended for submission to Clinical Psychology Forum

A – Discussion

3.1 - Discussion

This thesis poses two questions:

- 1). Why are mental health professionals not implementing evidence based therapies systematically?
- 2). Why doesn't clinical psychology, the profession most linked to and identified with evidence based practice, deliver evidence-based interventions?

A review of literature in this area (Chapter One) identified some methodological issues with the published literature within this field. The current study was able to partially address some of these issues, although not all. A significant issue recognized from the literature was the lack of follow-up provision within research studies in this area. The current study has not addressed this issue, and it is acknowledged that future research should seek to rectify this.

The research described in Chapter Two of this thesis examined the impact of dissemination methods on trainee clinical psychologists' attitudes to family intervention in psychosis, and their willingness to engage in further training, as a method of investigating the impact that dissemination methods have on attitudes to EBP and willingness to change practice. Combining case study and research information increased willingness to train but not attitudes to family interventions. The current study has been one of the few to attempt to modify attitudes to evidence-based practice, and one facet of its use, as opposed to describing the pattern of evidence-based practice use amongst clinicians. Additionally, the inclusion of a standardized measure strengthened the methodology, whilst including a qualitative element, has also allowed for some exploration of views on a specific evidence-based treatment.

3.1.1 Survey findings, research competency and experience of different therapeutic modalities.

The survey indicated that most trainees were familiar with CBT and that they had the most experience of working in this modality prior to, and during, clinical training. They were relatively unfamiliar with most other models. This has implications for both the training process and future clinical practice. Previous research has shown that one of the biggest influences on adoption of a therapy as part of clinical practice is exposure to on-going supervision from a therapist experienced within that modality (Aarons, Sommerfield & Walrath-Greene, 2009; Schoenwald & Hoagwood, 2001; Kavanagh et al., 2003; Milne, Dudley, Repper, & Milne, 2001). From this, it would seem inevitable that if trainee psychologists spend the majority of their training experience receiving supervision primarily in CBT models, that they are most likely to primarily employ CBT techniques in their future clinical practice. Whilst the accreditation criteria for UK training courses means that trainees should be familiar with at least one other model of therapy, this is different across courses. In the case of family intervention, trainees should possess systemic working skills on qualification; experience of working directly with families throughout training is a requirement of training courses but perhaps a greater emphasis should be placed on this, and formal systemic intervention.

This is not necessarily a negative; CBT has proven efficacy and effectiveness in working with a number of psychological problems and is one of the most versatile psychological therapies (Butler, Chapman, Forman & Beck, 2006). However, limited experience in other therapeutic modalities may mean that trainees have limited confidence in using other therapies and are less likely to seek out training in them. This is of particular concern given that post-qualification training opportunities are less accessible in the current financial climate, and that accessing training opportunities is likely to require that clinicians are more motivated to pursue them. As family interventions are largely based on CBT, trainees should already possess the skills, so perhaps it is access to supervision and experience in this mode of working that are lacking.

There are a limited number of placement opportunities available and these are dependent on clinicians' ability to offer placements and provide supervision, it is therefore understandable that there are fewer placements available using less-employed therapies. However, if clinicians proficient and confident in their use are able to provide trainees with

supervision, this could be the most effective way of raising confidence and increasing the likelihood that trainees will train and employ different therapies after qualification.

Trainees were also asked to give some information about their experience with research prior to beginning training and their self-rated competence in understanding and critiquing research findings. On the whole, participants rated themselves as lower on the scale, despite the fact that all participants had at least undergraduate level training and the majority had further post-graduate training or experience. Interestingly, there was no difference in mean ratings of research competency between participants who reported undergraduate level training and those who reported more. This is concerning, as evidence-based practice requires the ability to critique and consider research evidence and although trainee clinical psychologists undoubtedly do possess these skills, a lack of confidence in using them may reduce their consideration of research evidence. A similar difference in perceived and actual research competence in newly-qualified medical doctors has been observed (Caspi, McKnight, Kruse, Cunningham, Figueredo & Sechrest, 2006; Lei & Teng, 2011). Integrating research teaching into case discussions and problem-based learning tasks can improve medical students' confidence and skills (Liabsuetrakul, Sirirak, Boonyapipat & Pornsawat, 2011).

Clinical psychology training courses already place an emphasis on research skills, but perhaps more could be done - Lilienfeld, Ritschel, Lynn, Cautin & Latzman advocate, as part of a wider strategy to tackle practitioner resistance to EBP, that trainees also be educated on the reasons why EBP is of such importance. They suggest that clinical psychology trainees should have a full understanding of historical errors made due to inference-making and other biases, so as to understand why clinical judgment alone is not sufficient (Lilienfeld, Ritschel, Lynn, Cautin & Latzman, 2013).

3.1.2 The effect of dissemination methods, combining research and practice evidence.

The finding that combining case study evidence and research evidence increased willingness to train in family interventions for psychosis lends further support to the value of integrating clinical and research evidence in improving implementation of evidence-based therapies. Interestingly, despite the well-known bias that clinicians show towards clinical evidence (Cohen, Sargent, and Sechrest, 1986), in the current study, case study evidence presented alone did not result in significantly greater attitudes to family interventions in psychosis, or significantly greater willingness to train. Although this may have been partly due to the already positive attitudes to family intervention in psychosis demonstrated in this sample

and a small difference was observed in the case study condition only, it is interesting that the bias was not as evident as would have been expected. The combined condition was the most effective, demonstrating that participants valued both research and clinical evidence.

Efforts to increase cooperation between clinicians and researchers have been slow but initial results have been promising. There is potential to improve dissemination, although generally clinicians take a passive role, with their expertise not being accounted for (Chorpita & Nakamura, 2004; Weston, Novotny & Thompson-Brenner, 2005). Becker, Stice, Shaw, and Woda (2009) employed a Community Participatory Research (CPR) approach, in order to implement a dissonance-based Eating Disorder prevention intervention programme amongst young female university students based in sororities in US universities. CPR is very similar to co-production (Boyle & Harris, 2009), in that the aim is to involve community partners, groups of people who have a practical or emotional investment in an issue, in research in a manner that shares decision-making and allows them to be future partners in disseminating the approach amongst other community networks. Becker et al reflect on the ways in which the CPR approach was useful and how it can be applied to improve relationships between researchers and clinicians, concluding that it is an effective approach for combining clinical and research strengths.

Another approach has been for researchers to identify the areas which clinicians would value further research in. This was adopted by the UK Council for Psychotherapy (UKCP), who surveyed their members in order to help plan the activities of their research faculty (McDonnell, Stratton, Butler, & Cape, 2012). In addition to gaining insight into the topics most valued by their members, the survey identified therapists' concerns about research, their use of it, and the perceived barriers to their usage. Therapists identified lack of time, difficulty accessing resources and lack of confidence in interpreting research as the main barriers. The authors acknowledged a need for more creative and out-reach based approaches to research dissemination, such as making it more available to freely access online and supporting the set-up of Research-Practice networks.

Such approaches greatly improve the clinical relevance of research, increasing the likelihood that clinicians will value it. However, the dominant approach remains one of passive diffusion, which is easy for clinicians to continue to ignore. Some researchers-clinicians have proposed that there is a good case for both types of evidence together, with ideographic case-study evidence produced alongside traditional research-based studies, acting as a complement (Barlow & Nock, 2009).

Integrating research and practice based evidence is effective in increasing the likelihood that clinicians will consider adopting a change in practice (Stewart & Chambless, 2010), although the effects observed in Chapter Two were relatively weak. Further issues with the current system of research are discussed in the following section.

3.1.3 The effect of pre-existing attitudes to evidence-based practice.

The use of the EBPAS (Aarons, 2004) in the current study helped to include a standardized measure of attitudes to evidence-based practice and the factors which influenced it. The scale was originally designed for use in child and family mental health settings within the US, however confirmatory factor analysis found that the requirements and openness subscales were reliable within the population under study (Appendix 7). The study findings showed that the openness and requirements subscales were significant positive predictors of attitudes to family intervention. The finding that trainees' responses to the requirements subscale, which measures the impact that local (both supervisor and organizational level) and national requirements had on the likelihood of them adopting family intervention, was a significant factor which has implications for dissemination and implementation of family intervention.

The current system of practice guidance within the UK is recommendation-based, with the most prevalent system being the National Institute of Health and Care Excellence guidance on a variety of conditions. However, although all practitioners should refer to guidance, treatment decisions still remain based largely on clinical judgment (von Ranson & Robinson, 2006; Stewart & Chambless, 2007; Riley, Lee, Cooper, Fairburn, & Shafran, 2007; Stewart et al., 2012); there is, however, significant evidence to confirm that clinical judgment is not as accurate as clinicians presume it to be (Garb, 1998).

A wholly requirements based system would be undesirable for a number of reasons, chief amongst them the issue of effectiveness vs. efficacy. Firstly, the current system is based primarily on research evidence; while evidence-based practice is important, the research system it is based on is not without its flaws. Guidance is based on 'gold star' forms of evidence, primarily in the form of Randomized Controlled Trials (RCTs), although effectiveness trials are included where available. Some have criticised the utility of RCT evidence, primarily due to the stringent inclusion and exclusion criteria for participants (Starcevic, 2003). A large number of clients accessing community mental health services will have more than one diagnosis, and a significant proportion will also present with co-morbid substance abuse issues (Weaver, Madden, Charles, Stimson, Renton *et al*, 2003). An RCT

normally focuses on clients with one specific diagnosis and no substance abuse issues, which raises questions about how effective the treatment will be amongst the majority of people. Comparisons between efficacy ratings from RCT evidence and effectiveness in real-world practice have generally shown that effectiveness is substantially lower when treatments are applied in actual clinical settings (van der Lem, van der Wee, van Veen & Zitman, 2012). Additionally, there are a number of treatments which do not lend themselves to RCT research and therefore do not become considered to be evidence-based (Parloff, 1979; Persons, 1991). A further concern for practitioners is the difference between the nomothetic and the ideographic approaches (Maher & Gottesman, 2005); in a profession which at its core, values the person as an individual, there is often a tension between holding this value and considering the individual as one of many. This is understandable, particularly given the stringent inclusion/exclusion criteria discussed above. However, it is possible to improve the clinical applicability of research evidence; the use of meta-analysis provides the opportunity for moderators to be used to make specific recommendations about which sub-groups of individuals are likely to respond best to specific treatments (Kraemer, Wilson, Fairburn, & Agrasv, 2002). Family interventions have been shown to be effective when applied to heterogeneous patient groups, with interventions for specific individuals varying depending on the individual, their circumstances and need (Barrowclough et al, 1999). This demonstrates that evidence-based interventions can be successfully employed in clinical practice.

Given this, any move to make recommendations into requirements based on the current system of research is likely to be unhelpful to clinicians and their clients. However, clinicians do have the opportunity to change the current process of research, either as producers, by becoming involved in research and providing a much-needed clinical perspective, or as consumers, expressing the short-comings of the traditional research approach.

3.1.4 Trainee views on family intervention and perceived barriers to its use.

The qualitative findings in some ways echoed the findings from the quantitative data, with participants' responses being overwhelmingly positive regarding family interventions and their use in psychosis. However, participants' views were balanced as opposed to blindly positive, with responses showing good insight into situations where family intervention would not be appropriate, including where there was abuse or risk within the family and where families were estranged from the person with psychosis and therefore unlikely to engage. This is encouraging for the study as a whole, as it indicates that the attitude scores were reasonable and that the sample had a working knowledge of family interventions. Participants indicated that the primary benefits of family intervention were that it was non-blaming, and that it can help prevent the problem from being situated within the person. They showed a good understanding of carers' issues too, as many responses identified the need for carers to be included and supported.

It is important to note that the evidence-base is not exclusively based on formal family therapy, with the majority of it looking at family intervention in a standard clinical setting. Despite this, some trainee responses seemed to refer to formal family therapy. It is possible that participants were not fully aware of the difference, or that there was confusion over the difference between formal family therapy and family interventions. Although the case study clearly described a family intervention, confusion over this term may explain some of the lack of confidence expressed by trainees. It is not possible to know whether there is likely to be confusion over this amongst qualified psychologists. Most trainees will already have done some form of family intervention during their time training. The majority of child placements involve working with families, while working with patients and carers is a common experience in both older adult and learning disability placements. A possible solution to this lack of confidence, would therefore be to emphasise the transferable skills which trainees possess from working with in placements where family involvement is common, and make explicit that these can, and should, be used in adult mental health.

A number of participants expressed a reluctance to use family interventions due to lacking confidence and appropriate training. Whilst this is understandable given their career stage, BPS Required Learning outcomes for accredited doctorates in clinical psychology standard 2.3.4.1, indicates that on qualification, clinical psychologists should be able to use *'psychological formulation to design and implement interventions with individuals, couples and families, and care staff'* (BPS, 2010). Whilst further advanced training might be

necessary to conduct formal family therapy, this would not be the case to work with more than one member of the family. Family intervention for psychosis would ideally involve psychoeducational components, relapse prevention and monitoring work, in addition to addressing any features of the family that may be maintaining symptoms (Pilling, Bebbington, Kuipers, Garety, Geddes, Orbach & Morgan, 2002). These are skills that all clinical psychologists should possess, even when newly qualified.

Even when therapists are under the impression that they are adhering to the evidence base, they may be subject to 'therapist drift'. That is when clinicians move away from the evidence-base in clinical practice and has been noted in therapists using CBT for a variety of disorders. For example, clinicians may avoid implementing the full range of tasks that are necessary for CBT to be effective (Waller, 2009). Waller argues that this is largely due to clinicians' own anxieties about upsetting the client or cognitive distortions about who is to blame for the failure of therapy. Further work examining adherence to CBT in eating disorder therapists has identified that clinicians who are more anxious, older or more experienced in working with clients with eating disorders are more likely to demonstrate 'drift' (Waller, 2012). This is strikingly similar to findings that more experienced clinicians are more vulnerable to a bias towards clinical experience (Berke, Rozell, Hogan, Norcross, & Karpiak, 2011). It seems possible that the unwillingness of clinicians to engage in family interventions could have some of the same root causes. Clinician anxiety about 'rocking the boat' for the client, or perceived barriers such as the difficulty of implementing family work in services when family work need only involve inviting a relative to join a session, could conceivably be a manifestation of therapist anxiety about employing an unfamiliar technique, or working with more than one person. Waller emphasises the need for clinicians to take some responsibility for the failure of therapy, and to consider their own role when CBT does not work with a client. Perhaps it is necessary for the profession to begin to consider more seriously where the responsibility for engaging with and supporting families lies.

An additional concern raised by participants in the study reported in Chapter Two was the influence of service context on the feasibility of offering family interventions. This is a concern which has been previously documented in the literature (Fadden, 2006). There is evidence to suggest that family work can be effectively adopted within services, without a significant disruption to the usual work of the service (Smith & Velleman, 2002; Kelly & Newstead, 2004). The examples given in these studies highlight the importance of multi-

level approaches to service change, including support from the upper levels of management and support for clinical staff's immediate line managers. They also highlight the importance of having local 'opinion leaders' on hand to promote the work and begin the process of changing the service culture. Such individuals have previously shown to be effective, by influencing dissemination from the bottom-up (Dopson, FitzGerald, Ferlie, Gabbay, & Locock, 2002). This is consistent with findings about the order in which evidence is valued by clinicians. In addition to valuing case study evidence higher than research evidence, clinicians value the work and experiences of their colleagues most in deciding on an intervention (Cohen, Sargent, and Sechrest, 1986; Stewart and Chambless, 2007; Pignotti, 2009). Such opinion leaders could be effective on training courses, particularly with regards to encouraging trainees to seek placements with the opportunity for supervised family work and encouraging local clinicians to offer the placements. These findings are not new- it has long been known that changing the organizational culture is more effective and important than changes in strategy and policies; 'culture eats strategy for breakfast, every day, every time' (Davies, 2002).

In the current financial climate, where uncertainty over the future of mental health services abounds, there is a temptation to focus solely on the difficulties that are being experienced. To take this approach fails to consider the opportunities for improvement. This research, to a small extent, has demonstrated that trainee clinicians are aware of the benefits of family interventions. It has also demonstrated that, despite this awareness, trainee clinicians' attitudes can be further improved by including information that is relevant and salient to them. As discussed above, it is possible for clinicians to influence service provision from within, however, it would seem sensible to use this knowledge to influence those with *more* influence. As G.P. commissioning continues to develop, there is an opportunity for clinicians to influence services using their specialist knowledge. A survey conducted by Rethink, a leading mental health charity, found that G.Ps reported feeling that they do not have the knowledge or confidence to effectively commission mental health services (All Parliamentary Group on Mental Health, 2010), and would perhaps welcome approaches regarding effective mental health treatments. Such approaches have been effective; one former NHS beacon site was denoted as such due to their success in implementing family interventions for psychosis, where Board members were approached and a briefing paper outlining the needs for, and benefits of, family work within this population (Smith & Velleman, 2002).

Additionally, as the move to consumer-driven health services continues, there is an opportunity to inform consumers of services and their families what treatments are the most effective. A National Schizophrenia Fellowship Survey conducted in 1995, found that families expressed frustration with not being included in the care of their relative and that most wanted more education and information about how to help manage symptoms (NSF, 1995). Whilst this survey is now almost twenty years old, it is unlikely that this will have changed. Carers often report feeling ignored or marginalized by services (Repper *et al*, 2005), despite an increasing emphasis on including them in mental health care (Chambers, Ryan & Connor, 2001). Carer research has found that families report a perceived lack of information and skills, feeling as though professionals do not recognize that they are the main source of support for their relative (Repper *et al*, 2005) and concern that professionals view them negatively (Pinfold, Farmer, Rapaport, Bellringer, Huxley *et al*, 2004). Additionally, family carers are significantly more susceptible to mental health problems, in particular depression, than the majority of the general population (Pinquart & Sorenson, 2003). This is most commonly thought to be due to carer burden, defined as the presence of problems, difficulties or negative events that influence the life of a family member when taking care of the client (Platt, 1985). More recent research found that carers consistently expressed a wish to be more involved with their relatives' care, and that both carers and service users believed that carer involvement and intervention would have positive effects for them; however, professionals did not consider these benefits (Askey, Holmshaw, Gamble & Gray, 2009). Carers in the same study also described feeling unsupported in times of crisis and felt pressured to provide extra care, even when they felt it would be detrimental to their own well-being for them to do so. Family carers have also reported that their own needs, in addition to those of their family member, should be addressed (Barrowclough *et al*, 1998; Mulligan *et al*, 2013).

The need for family involvement could have a considerable effect on mental health spending, due to the higher rates of mental health problems associated with providing care for a mentally-ill relative (Van Wijngaarden, Schene & Koeter, 2004). This adds another level to the need for an increase in family intervention in mental health services. Increasing carers' awareness of their options, and their avenues for interacting with commissioning bodies through increased engagement and targeting dissemination efforts at carers could be one other avenue for tackling the low provision of family interventions within this population.

3.1.5 Limitations of the current research

The study had a number of limitations. The recruitment process was reasonably effective; however, a significant portion of trainees did not access the study and of those who did, a large number did not complete it. This may have been due to the length of the survey, although the majority of participants who did not complete the survey accessed it for less than two minutes so would have made the decision based solely on the information provided which stated that the study 'no more than 20 minutes to complete' (Appendix 4).

Additionally, trainee clinical psychologists are, to some extent, an over-researched population who receive a large amount of research requests, so it is possible that trainees are less likely to engage in all research, rather to select the projects they are particularly interested in. The method of recruitment was not as effective as it could have been. As emails were forwarded by course administrators, who have a very busy job role, no follow-up or reminder emails were sent out to training cohorts, which may otherwise have increased uptake. With hindsight, casting the net wider with regards to recruitment would have been more effective, for instance, advertising the study through the Division of Clinical Psychology (DCP) pre-qualification network in addition to approaching training courses directly.

The use of self-reported willingness to train was perhaps not as valid within this population as in Stewart & Chambless' study. Trainees are generally keen to engage in further training, however this is limited by training centre development budgets and by the time demands of the course. Additionally, it is reasonable to assume that trainees are likely to be keen to engage in training that is relevant to their current clinical placements. No participants reported placement experience in an environment where family interventions were routinely used and so it is possible that this affected their willingness to train.

Additionally, there are potential problems with the inclusion of home study as it limits generalizability of the study to qualified staff, who will be working longer hours and possibly significantly less likely to consider home study as a viable or fair option. However, trainees are likely to be very used to home study as it is essential to meet the demands of training, whilst funds for external training varies significantly between course centres. The inclusion of the home study question allowed some control over this, as answers to this would not be constrained by funding differences. In Stewart & Chambless' study, the willingness to train score was subtracted from participants' scores on both willingness to engage in workshop training and home study for another treatment of their choice. This was intended to control

for their willingness to train *at all*. This was not thought to be necessary in a trainee population. The use of likert scales with descriptors to assess attitudes to family intervention and willingness to train is, of course, somewhat subjective, as participants' perceptions of what descriptors mean is likely to vary. It would perhaps have been more meaningful to assess both constructs using concrete examples of changes to practice; for example asking participants to select from different possible levels of training that they would be prepared to complete. Participants were asked how much money they would be willing to spend on training but this data was problematic as some participants specified money from their current training budgets, while others highlighted the fact that they did not have access to a training budget. Additionally, some participants specified the amount that they would be prepared to spend on training post-qualification. The measure could have been improved by changing the wording of the question to ask participants how much money they were prepared to spend *at the present time, irrespective of training budgets*,

The materials used in the study could also have been improved, particularly with regards to the case study. Service-user and carer input into the case study might have allowed a greater authenticity and insight into the experiences and consequences of family interventions from the position of those receiving it. Time limitations prohibited this, but any future research would undoubtedly benefit from consultation with carers and service-users. This would also be in line with national policy, which encourages the involvement of service-users and carers in research (DoH, 2006). The case study did, however, benefit from the experience of its author; service-users and their families can only comment on their own experiences, which are likely to differ greatly between families, whereas the input of an experienced therapist allowed a balanced perspective. The research summary was perhaps more consumable and 'easy-read' than a traditional research summary, and this may have influenced the findings; it was also longer than the material used by Stewart & Chambless.

It was decided not to collect information from participants about their training course so as to limit the amount of potentially identifying information provided, however, it would have been useful to collect some information about the content of training courses. A small number of participants provided information about the amount of training in systemic and family interventions that they had had on the course, however the majority of participants did not. It is unclear whether that is because participants had received little or no teaching at the time of completing the study, or whether the majority of participants perceived the question about prior training to mean training external to their clinical psychology course.

Additionally, a follow-up study assessing whether changes in attitudes and differences between conditions were maintained over time was planned, but due to practical constraints was not performed. This is a limitation of the current study, as a temporary change in trainees' willingness to train is clearly of less value than one remaining stable over time. This, however, is a methodological failing in much of the research into the clinical impact of dissemination of EBP and one which future research should seek to address.

A final limitation was that the survey did not collect information from participants about their stage of training. Had this been collected it would potentially have been possible to examine the effects of training over time, specifically whether trainees at different stages had differing attitudes to evidence-based practice in general, and family interventions in particular.

3.1.6 Strengths of the current research

Whilst there are acknowledged limitations to the design and implementation of the current study, there were also a number of advantages to the methodology. Firstly, the online data collection was a good way to reach the population; it was easy for participants to access and allowed them to remain entirely anonymous. The survey software used was flexible and allowed for participants to complete the survey in their own time, by logging out and returning when convenient to them. Increasingly, the internet is becoming an effective research tool as it is convenient for both researchers and participants (Kraut, Olson, Banaji, Bruckman, Cohen & Couper, 2004). Although there are some populations who are less likely to be comfortable using the internet, trainee clinical psychologists are inevitably familiar and comfortable with its use and are likely to have access, whether at home, university or placement. The ability to monitor data and recruitment in real-time was invaluable, particularly as some NHS trusts required estimates of the number of their staff who had participated. It also allowed for any errors in the questionnaire format to be corrected before they were accessed by participants. From the researcher's perspective, a significant amount of time was saved by the electronic capture of data – data entry was automated which also minimized the likelihood of errors at the point of entry.

Although the qualitative component of the research was minimal, it yielded very rich data and a number of insights which were not captured by the quantitative data alone. Participants' comments were detailed and insightful and yielded a good amount of information considering that they were responses to one question.

Mixed-methods have not been commonly employed when investigating EBP use, with the majority of studies using either qualitative or quantitative methodology alone. As well as offering a valuable perspective on the viewpoints and opinions of participants, the inclusion of the qualitative component highlighted some variables which could be better explored and controlled for in future studies. For instance, it was clear from participants' responses that lack of training was a factor in their decision-making process, so perhaps a case study focusing on family interventions using the skills that they already have would have produced a larger effect. With hindsight, the inclusion of a more detailed qualitative section, requesting views not only on family intervention in psychosis but EBP in general would have been useful. The survey element of the design was included primarily to allow the researchers to get an idea of trainees' experience with family work, however the information gained from it was a useful snapshot of the experience in all models that trainees receive whilst on placement.

The work presented in this thesis, and reported in Chapter Two, is not without flaws. However, the findings highlight that the gap between evidence and practice is still in existence and of concern. Future research should seek to address the limitations of this study and further explore the impact of case study evidence on mental health practitioners attitudes to evidence-based practice.

B – Proposal for future research

3.2 Background

The current study had some limitations. First, the results are not directly generalizable to qualified clinical psychologists, and to other professions practicing therapy. Second, there was no follow-up to see if gains are maintained or translate into measurable changes in practice. Third, the study could have been involved service-users and carers in the development of case study materials as well as an expanded qualitative section, more fully exploring attitudes and barriers to the use of family intervention for psychosis. A proposal for future research addressing these concerns is briefly presented below.

3.2.1 Aims

The proposed research will aim to use an extension of the methodology used by Stewart & Chambless (2010) in order to investigate clinical psychologists' willingness to adopt family based interventions for psychosis within the NHS. It also aims to evaluate whether willingness to train predicts adoption in clinical practice and identify some barriers to clinicians' willingness to train in, and engage with, family intervention in psychosis.

Hypotheses

1. Presentation of case study materials as a supplement to research evidence will result in more positive attitudes to family intervention than presentation of research evidence alone.
2. Presentation of case study materials as a supplement to research evidence will result in a greater willingness to train in family intervention than presentation of research evidence alone.

3.2.2 Participants.

Approval will be sought from NHS ethics and R&D committees for all participating trusts. Following this, an email containing information about the study and a link to the survey will be sent to psychologists working in NHS trusts nationally within Community Mental Health Teams (CMHT) and Early Intervention in psychosis (EI) settings. Targeting those in clinical

practice who are most likely to encounter adult psychosis in their routine clinical practice is likely to ensure a more homogenous sample, as well as providing the most useful information about what psychological treatments are most commonly used in psychosis.

3.2.3 Design

The study will have a mixed design with two study phases. The first phase of the study will be a between-groups design with participants being randomly assigned to one of four conditions – *combined, case study only, statistics only or minimal information*. The first condition will be counterbalanced to prevent order effects. The dependent variables will be attitudes to family intervention for psychosis and willingness to train in family intervention for psychosis.

The second phase of the study will be a within-subjects design. Participants will be contacted by email approximately three months after responding to the initial questionnaire. At this time, participants will be asked

1. To indicate whether they have seen a new client with psychosis since completing the first questionnaire.
2. To indicate whether they have used family intervention techniques when working with clients with psychosis.

The yes/no responses to these questions will serve as outcome variables in a logistic regression analysis, with willingness to train scores as a predictor variable, in order to assess whether willingness to train translates into use in practice.

3.2.4 Procedure

Participants will be identified by approaching psychological services professional leads for individual NHS mental health trusts. A link to the online study will be forwarded to potential participants via the professional leads. To improve response rates, a reminder email will be sent approximately four weeks after the initial invitation. The online study software will randomly allocate participants into one of the four conditions.

After a three-month follow-up period, participants will be contacted again. This second questionnaire will ask participants to indicate whether they have had the opportunity to use family intervention for psychosis in their clinical practice, and whether they have chosen to do so. Participants will also be given the opportunity to provide qualifying responses to their yes/no response. Study stages are shown in Figure 3 overleaf.

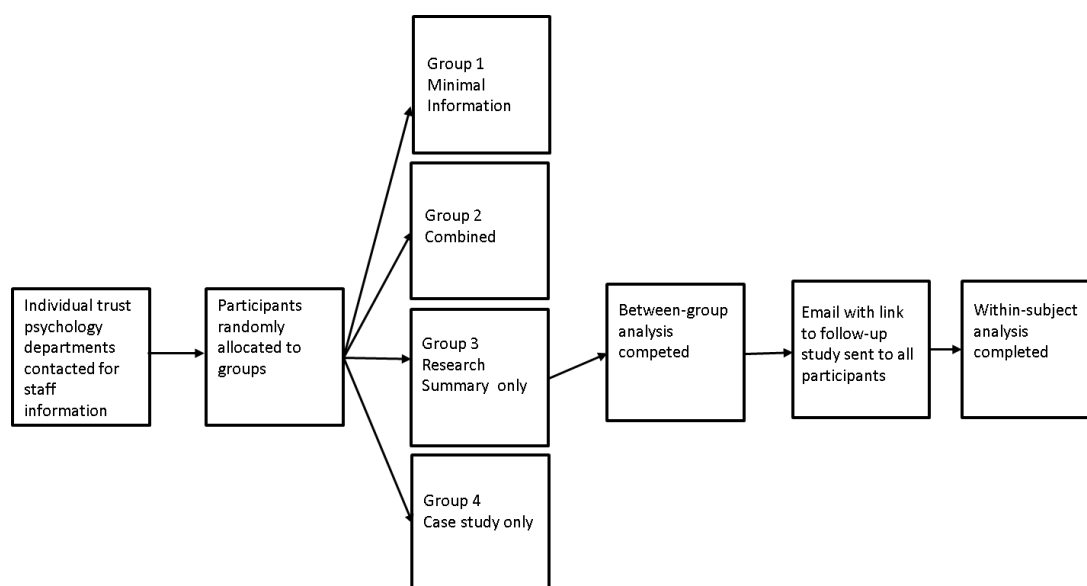


Figure 3 Study stages and procedure

3.2.5 Materials.

Table 8 shows the different versions of the online study that will be displayed under the different conditions.

Table 8 Description of questionnaire types by group

Section	Version 1 Combined	Version 2 Research only	Version 3 Case only	Version 4 Minimal information
1. Demographics	✓	✓	✓	✓
2. Description of history and symptoms	✓	✓	✓	✓
3. Evidence-Based Practice Attitudes Scale	✓	✓	✓	✓
4. Family intervention statistical summary (statistics)	✓	✓		
5. Case study of treatment with Family intervention (case)	✓		✓	
6. Dependent measures	✓	✓	✓	✓

3.2.5.1 Description of history and symptoms

A brief description of a fictitious client with psychosis will be provided in the form of a clinical vignette.

3.2.5.2 Research evidence (statistics)

A one-page summary of the body of evidence for categorising family intervention in psychosis as an evidence-based treatment will be provided.

3.2.5.3 Case study (statistics)

A case study of a fictitious patient treated with family intervention will be included. This will include a session-by-session breakdown and a brief discussion of patient outcomes. Families who previously received family intervention will be consulted as part of its development. Previous research has identified values of, and barriers to, family intervention for relapse prevention in bipolar disorder from the perspective of the service-user (Pontin, Lobbin & Morriss, 2009; 2011). Families who have previously completed family intervention would be interviewed using a semi-structured interview schedule focusing on some of these previously identified values and barriers, and others from the available literature. For example, improving the relationships in the family, increasing family understanding and empowerment, building a better relationship with services, time pressures and difficulties making appointments, and concerns about privacy. Responses to this interview will be used to help design the case study which will then be offered for feedback to participating families.

3.2.5.4 Dependent Measures

Dependent measures will remain the same as in the current study. The *attitudes to family intervention for psychosis* score is derived from summing participant responses to three items assessing their perception of the appropriateness of family intervention, the effectiveness of family intervention and how likely they are to use family intervention if suitably trained. The *willingness to train* score will be derived from participants' willingness to engage in home-study and workshop training in FI.

Additionally, participants will be asked to provide qualitative responses explaining both their attitudes to, and willingness to train in, FI; this will allow them to explain any barriers to the use of family intervention in practice and barriers to training they have encountered. At the follow-up, participants will also be asked to indicate any changes in practice related to family

intervention since completing the first questionnaire by selecting from a list. This list will include activities such as assessing a client for family intervention, talking to a client's family and seeking information on available training.

3.2.6 Data Analysis

Data collected from questionnaires will be analysed using MANOVA to detect a main effect of evidence format, with planned contrast analyses to detect where any significant difference lies. Frequency rates will be produced for the changes in practice reported by respondents. Qualitative responses to qualifying questions will be analysed using thematic analysis (Braun & Clarke, 2006), taking an inductive approach. Logistic regression will be used to detect the presence of any predictive relationship between willingness to train and use in practice at follow-up. This analysis will be a within-subjects analysis and all respondents will be included, irrespective of original group allocation.

C – Alternative format.

Trainee Clinical Psychologists' Attitudes to Family Intervention in psychosis: the impact of dissemination

(2298 words)

Summary

A study investigating the effects of different dissemination methods on trainee clinical psychologists' attitudes to family intervention in psychosis is reported. The findings are discussed in the context of evidence-based practice and implications for training.

Introduction

Family intervention in psychosis has long been recognized as useful and effective for both individuals affected by psychosis and their families. Risk of relapse is reduced, psychotic symptoms improved, and distress in carers reduced (Pilling, Bebbington, Kuipers, Garety, Geddes, *et al.*, 2002).

Family intervention is a recommended treatment for a first episode of psychosis (NICE, 2009). In addition to the advantages for the service-user, there are noted benefits to their relatives and carers. As first-episode psychosis predominantly affects younger people, many parents find themselves in the role of being primary carers. There is ample evidence that the effectiveness of carers and their support has an impact on the symptoms experienced by the individual and their chances of relapse (Scazufca & Kuipers, 1996). However, many relatives report feeling unprepared for this role and feeling abandoned by services (Grant, Repper & Nolan, 2008). Effective family intervention with has been shown to significantly reduce carer need (Sellwood, Barrowclough, Tarrier, Quinn, Mainwaring & Lewis, 2001).

Despite the evidence base, family intervention is not widely offered to service-users (Kuipers, 2011). Lack of training has been implicated as a cause; although some evidence suggests that even when training is completed, therapists do not routinely use family interventions. Fadden (1997) conducted a survey of 86 therapists who had completed training in Behavioural Family Therapy, and found that, although 70% of those surveyed

indicated that they had used the approach, the mean number of families seen by each therapist was only 1.7. Difficulties in implementation were reported, mainly a combination of service-related barriers and particular challenges perceived as associated with family work.

A core value of the profession of Clinical Psychology is a commitment to evidence-based practice and the scientist practitioner model, as outlined in the 'Core purpose and philosophy of the profession' (BPS, 2010). Standard 2b.1 of the Health and Care Professions Council (HCPC) Standards of Proficiency for Practitioner Psychologists states '*Registrant Practitioner Psychologists must be able to use research, reasoning and problem solving skills to determine appropriate actions, recognise the value of research to the critical evaluation of practice, be able to engage in evidence-based practice*'. Standard 2b.3 of the same document states that registrants must '*understand the need to implement interventions and care-plans in partnership with clients, other professionals and carers*' (HCPC, 2010). So as a profession, clinical psychology faces something of an embarrassment. The evidence is in place, policies have been written, the competencies are present, yet few clinical psychologists implement family interventions with people affected by psychosis. There is substantial evidence that clinicians place preferential weight on their own clinical experience when selecting interventions (Stewart & Chambless, 2007). There is no disputing that clinical judgment is important, however clinical judgments have been demonstrated to be less reliable than clinicians perceive them to be (Garb, 1998; Hannan, Lambert, Harmon, Nielson, Smart & Shimokawa, 2005). In addition to placing value on their own clinical judgment and experience, clinicians show a preference for information from colleagues than from research articles or books (Cohen, Sargent, & Sechrest, 1986; Morrow, Bradley & Elliott, 1986). This tendency seems to increase as clinical experience and confidence grows; clinical psychologists with the highest levels of clinical experience report significantly less use of the evidence base in their practice (Berke, Rozell, Hogan, Norcross & Karpiak, 2011). Additionally, more experienced therapists show a greater tendency towards therapist 'drift' (Waller, Stringer & Meyer, 2012).

Rather than attempt to make research more interesting to clinicians, or decrease the value that they place on clinical evidence, it could be more effective to make use of our bias towards clinical evidence and experience. Stewart & Chambless (2010) investigated the impact on clinicians' attitudes to, and willingness to train in CBT for Bulimia, of different methods of information dissemination. Clinicians who received research evidence and case

study information reported significantly better attitudes to CBT for Bulimia and a greater willingness to train than participants who only received research information.

The study described here used a replication of this methodology in order to investigate the impact of different dissemination methods on trainee clinical psychologists' attitudes to family intervention. It also explored trainee attitudes to family intervention.

Method

In order to ascertain whether disseminating information in different formats could change attitudes to family intervention and increase trainees' willingness to engage in further training, we conducted an online study with trainee clinical psychologists from across the UK. Participants were randomly assigned to one of four conditions; a minimal information condition where they viewed some background information about a fictitious service user with psychosis; a case study only condition where they viewed a case study of family intervention with the service user; a research only condition where they viewed a summary of family intervention research and a combined condition where they viewed both.

Measures

Demographics Participants were asked to provide basic demographic information including their age, region of training course, educational level and gender.

Experience Participants were asked to rate their experience of working with people with psychosis, both prior to clinical training and whilst on the training course from four options – no experience, limited experience, medium level of experience and a high level of experience.

Additionally, participants were asked to indicate how much experience they had with different therapies and models. This was done by using a 3-point Likert scale ranging from *1- little or no experience* to *3 – high level of experience*, with trainees rating their experience of: Cognitive Behavioural Therapy (CBT), Interpersonal Therapy, Cognitive Analytic Therapy (CAT), Psychodynamic Therapy, Narrative Therapy, Acceptance and Commitment Therapy (ACT) and Systemic/Family Therapy. They also completed the standardised measure of attitudes to EBP (EBPAS).

Case study and research summary The case study and research summary were developed largely by one of the authors (WS), who had significant clinical and research experience within the area of family intervention in psychosis. The case study explored the experience of a fictitious service-user and his family of family intervention focusing on issues of relapse monitoring and prevention, psycho-education, and carer burden and over-involvement as well as improving relationships within the family. The research summary briefly discussed research evidence on the positive effects of family intervention in people with psychosis.

Evidence-Based Practice Attitudes Scale (EBPAS; Aarons, 2004) The EBPAS, modified to make items more relevant to clinical psychology practice in the UK, was used to measure attitudes to EBP. The scale includes items related to individual perception of EBP as well as items relating to organisational culture and requirements of line management and regulatory bodies. Internal consistency for the current study was $\alpha=0.80$. Items are scored on three subscales, all of which have reasonable reliability - Requirements, the likelihood of adopting EBP if required to do so (3 items; $\alpha=0.95$); Appeal, the intuitive appeal of EBP (4 items; $\alpha = 0.86$); openness, openness to new practice (4 items; $\alpha=0.62$) and Divergence, perceived divergence of usual practice from research-based interventions (4 items; $\alpha=0.65$).

Attitudes to Family intervention and Willingness to Train Attitudes to family intervention were scored by summing participant responses to three questions dealing with how appropriate they found family interventions, how confident they were that family intervention would be helpful for service-users and how likely they were to use it, given adequate training. The three questions were scored on a 10 point scale with items summed to give a maximum score of 30.

The willingness to train score was created by asking participants how likely they were to seek out and complete further training in family interventions in both a home-study and workshop setting. These questions were scored on the same 10 point scale, with responses ranging from extremely unlikely to extremely likely. Items were summed giving a highest possible score of 20 for the total measure.

Procedure

All participants were randomly allocated to one of the four conditions when they entered the study site. Participants were given information about the study first, followed by demographic questions and questions about previous experience in different therapies, clients with psychosis and research. Following this, all conditions viewed the baseline

information about the client followed by the materials for the condition they were assigned to. Participants then completed the dependent measures. Data were then downloaded by the researcher for analysis.

Sample

The researcher disseminated the study link to programme administrators of 23 UK training courses, who then forwarded the link to trainees via email. A total of 182 trainees viewed the study, of which 104 trainees completed the study.

Most participants were women (87.5%) with a mean age of 29. The majority of respondents were from training courses in the North West England and Greater London regions. Most trainees reported having little or no experience of working with people with psychosis, prior to, and during, training. CBT was the dominant therapy model that trainees had been exposed to, with only two per cent indicating that they had little or no experience in the model. Over half of participants indicated that they had a moderate level of experience in family/systemic models; however, 40 per cent of participants indicated that they had little or no experience. Trainees were relatively inexperienced with other models, with most reporting little or no experience.

Statistical Analysis

The differences between groups on measures of attitude and willingness to train were assessed using MANOVA. Multiple regression analysis was used to assess whether EBPAS scores were predictive of attitudes to FI or willingness to train. Analyses were conducted on the data from the 104 trainees who completed the study.

Results

There was no significant difference in trainees' attitudes to family intervention in either condition ($F(6, 200) = .909, p > .05$; Wilks' $\Lambda = .947$; partial $\eta^2 = .027$). Descriptive statistics showed that the sample's attitude ratings were positive regardless of condition ($M=21.13$, $S.D = 3.58$). However, post hoc tests revealed that participants receiving both case study and research evidence showed a greater willingness to engage in further training in family interventions ($p=.046$).

Multiple regression indicated that both the requirements scale and the openness subscale of the EBPAS were significant predictors of attitudes to FI in psychosis, $F(3, 97) = 10.025, p <$

.0001, adj. R^2 = .24. The openness subscale of the EBPAS was a significant predictor of trainees' willingness to train in FI for psychosis, $F(1,99)=8.911$, $p=.004$, adj. $R^2=.07$

Discussion

The findings of this small study have implications for the training of clinical psychologists. Despite the positive attitudes to family therapy displayed by trainees, the survey showed that the majority of the sample had little to no experience in family or systemic working whilst in training. The issues around service set-up and organisational culture may be challenging, but interesting those clinicians who do practice family interventions in training should be possible. If more trainees had access to placements where family work is routine, they would be more likely to be in a position where they are able to play an active part in changing the culture of the organizations in which they work. Given the relatively low number of psychologists routinely conducting family work, this could be difficult and would require a change in the practice of qualified psychologists

According to the BPS Required Learning outcomes for accredited doctorates in clinical psychology standard 2.3.4.1, a required skill of newly clinical psychologists is the ability to, *'On the basis of a formulation, implementing psychological therapy or other interventions appropriate to the presenting problem and to the psychological and social circumstances of the service-user(s), and to do this in a collaborative manner with: individuals, couples, families or groups, services/organisations'* (BPS, 2010). This means that all qualified clinical psychologists have the skills required to do family work, and would have the opportunity to ensure that trainees under their supervision would be able to do the same.

The finding that participants' attitudes and willingness to train were most influenced by requirements suggests that were training courses to make a certain amount of experience with family work mandatory, this would have the strongest effect on making trainees gain experience, and, subsequently, confidence in this approach.

Clinical implications

Clinical psychologists are in a relatively unique position as both producers and consumers of mental health research. Due to this, there is an opportunity for clinicians to change the way in which clinical research is disseminated. Those clinicians involved in therapy research can, and perhaps should, lobby to include brief case studies within research articles, whilst those

who are not can be aware of their own biases and seek out published case studies in therapies that are evidence-based. Additionally, clinical psychologists already using family intervention with people with psychosis, have the opportunity to act as local 'opinion leaders' sharing their experiences with other colleagues, which has been shown to have a positive impact on implementation (Dopson, FitzGerald, Ferlie, Gabbay, & Locock, 2002).

If sharing case study information can have an impact on psychologists' willingness to engage in further training with a view to changing practice, it stands to reason that similar effects can be had with other professions. An obvious example of this is GP commissioners; whilst many commissioners have an acknowledged lack of specialist knowledge and experience in mental health (All Parliamentary Group on Mental Health, 2010), they are likely to have a good knowledge of the difficulties faced by family members when a relative is unwell. Targeting commissioners with both the research evidence *and* the clinical experiences of families may well increase their willingness to commission services which actively promote family work and involvement, in turn increasing opportunities for clinicians to train and gain experience and confidence in working with these approaches.

Clinical psychologists ensure that service users can make full and informed choices about their treatment. Whilst family interventions may not be suitable for everyone, there are many people who could greatly benefit from them. Regardless of the profession's commitment to evidence-based practice, family intervention clearly has a valuable contribution to make and psychologists are in the best place to promote and encourage its use.

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Appendix 1 – STROBE criteria

Table 9 STROBE statement - Checklist of items that should be included in reports of cross-sectional studies

	Item No	Recommendation
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract (b) Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported
Objectives	3	State specific objectives, including any pre-specified hypotheses
Methods		
Study design	4	Present key elements of study design early in the paper
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable
Data sources/measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group
Bias	9	Describe any efforts to address potential sources of bias
Study size	10	Explain how the study size was arrived at
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed (d) If applicable, describe analytical methods taking account of sampling strategy (e) Describe any sensitivity analyses
Results		
Participants	13*	(a) Report numbers of individuals at each stage of study—e.g. numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed (b) Give reasons for non-participation at each stage (c) Consider use of a flow diagram
Descriptive data	14*	(a) Give characteristics of study participants (e.g. demographic, clinical, social) and information on exposures and potential confounders (b) Indicate number of participants with missing data for each variable of interest
Outcome data	15*	Report numbers of outcome events or summary measures
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and

		why they were included
		(b) Report category boundaries when continuous variables were categorized
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period
Other analyses	17	Report other analyses done—e.g. analyses of subgroups and interactions, and sensitivity analyses
Discussion		
Key results	18	Summarise key results with reference to study objectives
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence
Generalizability	21	Discuss the generalizability (external validity) of the study results
Other information		
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based

Appendix 2 - Full list of participating courses

University of Birmingham
Coventry and Warwick
University of East Anglia
University of East London
University of Edinburgh - NHS Scotland
University of Essex - Tavistock
University of Exeter
University of Glasgow - NHS Scotland
University of Hertfordshire
Institute of Psychiatry, King's College London
Lancaster University
University of Leeds
University of Liverpool
University of Manchester
Newcastle University
North Thames - University College London
Oxford
Royal Holloway, University of London
University of Southampton
South Wales
Staffordshire and Keele
Teesside University
Trent - Universities of Lincoln and Nottingham

Appendix 3 - Author guidelines for Implementation Science

Author guidelines for Implementation Science

Text is copied from <http://www.implementationscience.com/authors/instructions/research>

Instructions for authors

Preparing main manuscript text

General guidelines of the journal's style and language are given [below](#).

Overview of manuscript sections for Research articles

Manuscripts for Research articles submitted to *Implementation Science* should be divided into the following sections (in this order):

- [Title page](#)
- [Abstract](#)
- [Keywords](#)
- [Background](#)
- [Methods](#)
- [Results and discussion](#)
- [Conclusions](#)
- [Availability of supporting data](#)
- [List of abbreviations used](#) (if any)
- [Competing interests](#)
- [Authors' contributions](#)
- [Authors' information](#)
- [Acknowledgements](#)
- [Endnotes](#)
- [References](#)
- [Illustrations and figures](#) (if any)
- [Tables and captions](#)
- [Preparing additional files](#)

The **Accession Numbers** of any nucleic acid sequences, protein sequences or atomic coordinates cited in the manuscript should be provided, in square brackets and include the corresponding

database name; for example, [EMBL:AB026295, EMBL:AC137000, DDBJ:AE000812, GenBank:U49845, PDB:1BFM, Swiss-Prot:Q96KQ7, PIR:S66116].

The databases for which we can provide direct links are: EMBL Nucleotide Sequence Database ([EMBL](#)), DNA Data Bank of Japan ([DDBJ](#)), GenBank at the NCBI ([GenBank](#)), Protein Data Bank ([PDB](#)), Protein Information Resource ([PIR](#)) and the Swiss-Prot Protein Database ([Swiss-Prot](#)).

You can [download a template](#) (Mac and Windows compatible; Microsoft Word 98/2000) for your article.

For reporting standards please see the information in the [About](#) section.

Title page

The title page should:

- provide the title of the article
- list the full names, institutional addresses and email addresses for all authors
- indicate the corresponding author

Please note:

- the title should include the study design, for example "A versus B in the treatment of C: a randomized controlled trial X is a risk factor for Y: a case control study"
- abbreviations within the title should be avoided

Abstract

The Abstract of the manuscript should not exceed 350 words and must be structured into separate sections: **Background**, the context and purpose of the study; **Methods**, how the study was performed and statistical tests used; **Results**, the main findings; **Conclusions**, brief summary and potential implications. Please minimize the use of abbreviations and do not cite references in the abstract. **Trial registration**, if your research reports the results of a controlled health care intervention, please list your trial registry, along with the unique identifying number (e.g. **Trial registration**: Current Controlled Trials ISRCTN73824458). Please note that there should be no space between the letters and numbers of your trial registration number. We recommend manuscripts that report randomized controlled trials follow the [CONSORT extension for abstracts](#).

Keywords

Three to ten keywords representing the main content of the article.

Background

The Background section should be written in a way that is accessible to researchers without specialist knowledge in that area and must clearly state - and, if helpful, illustrate - the background to the research and its aims. Reports of clinical research should, where appropriate, include a summary of a search of the literature to indicate why this study was necessary and what it aimed to

contribute to the field. The section should end with a brief statement of what is being reported in the article.

Methods

The methods section should include the design of the study, the setting, the type of participants or materials involved, a clear description of all interventions and comparisons, and the type of analysis used, including a power calculation if appropriate. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses in the Methods section.

For studies involving human participants a statement detailing ethical approval and consent should be included in the methods section. For further details of the journal's editorial policies and ethical guidelines see ['About this journal'](#).

For further details of the journal's data-release policy, see the policy section in ['About this journal'](#).

Results and discussion

The Results and discussion may be combined into a single section or presented separately. Results of statistical analysis should include, where appropriate, relative and absolute risks or risk reductions, and confidence intervals. The Results and discussion sections may also be broken into subsections with short, informative headings.

Conclusions

This should state clearly the main conclusions of the research and give a clear explanation of their importance and relevance. Summary illustrations may be included.

Availability of supporting data

Implementation Science encourages authors to deposit the data set(s) supporting the results reported in submitted manuscripts in a publicly-accessible data repository, when it is not possible to publish them as additional files. This section should only be included when supporting data are available and must include the name of the repository and the permanent identifier or accession number and persistent hyperlink(s) for the data set(s). The following format is required:

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Where all supporting data are included in the article or additional files the following format is required:

"The data set(s) supporting the results of this article is(are) included within the article (and its additional file(s))"

We also recommend that the data set(s) be cited, where appropriate in the manuscript, and included in the reference list.

A list of available scientific research data repositories can be found [here](#). A list of all BioMed Central journals that require or encourage this section to be included in research articles can be found [here](#).

List of abbreviations

If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations can be provided, which should precede the competing interests and authors' contributions.

Competing interests

A competing interest exists when your interpretation of data or presentation of information may be influenced by your personal or financial relationship with other people or organizations. Authors must disclose any financial competing interests; they should also reveal any non-financial competing interests that may cause them embarrassment were they to become public after the publication of the manuscript.

Authors are required to complete a declaration of competing interests. All competing interests that are declared will be listed at the end of published articles. Where an author gives no competing interests, the listing will read 'The author(s) declare that they have no competing interests'.

When completing your declaration, please consider the following questions:

Financial competing interests

- In the past five years have you received reimbursements, fees, funding, or salary from an organization that may in any way gain or lose financially from the publication of this manuscript, either now or in the future? Is such an organization financing this manuscript (including the article-processing charge)? If so, please specify.
- Do you hold any stocks or shares in an organization that may in any way gain or lose financially from the publication of this manuscript, either now or in the future? If so, please specify.
- Do you hold or are you currently applying for any patents relating to the content of the manuscript? Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript? If so, please specify.
- Do you have any other financial competing interests? If so, please specify.

Non-financial competing interests

Are there any non-financial competing interests (political, personal, religious, ideological, academic, intellectual, commercial or any other) to declare in relation to this manuscript? If so, please specify.

If you are unsure as to whether you, or one your co-authors, has a competing interest please discuss it with the editorial office.

Authors' contributions

In order to give appropriate credit to each author of a paper, the individual contributions of authors to the manuscript should be specified in this section.

An 'author' is generally considered to be someone who has made substantive intellectual contributions to a published study. To qualify as an author one should 1) have made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) have been involved in drafting the manuscript or revising it critically for important intellectual content; and 3) have given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content. Acquisition of funding, collection of data, or general supervision of the research group, alone, does not justify authorship.

We suggest the following kind of format (please use initials to refer to each author's contribution): AB carried out the molecular genetic studies, participated in the sequence alignment and drafted the manuscript. JY carried out the immunoassays. MT participated in the sequence alignment. ES participated in the design of the study and performed the statistical analysis. FG conceived of the study, and participated in its design and coordination and helped to draft the manuscript. All authors read and approved the final manuscript.

All contributors who do not meet the criteria for authorship should be listed in an acknowledgements section. Examples of those who might be acknowledged include a person who provided purely technical help, writing assistance, or a department chair who provided only general support.

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You may choose to use this section to include any relevant information about the author(s) that may aid the reader's interpretation of the article, and understand the standpoint of the author(s). This may include details about the authors' qualifications, current positions they hold at institutions or societies, or any other relevant background information. Please refer to authors using their initials. Note this section should not be used to describe any competing interests.

Acknowledgements

Please acknowledge anyone who contributed towards the article by making substantial contributions to conception, design, acquisition of data, or analysis and interpretation of data, or who was involved in drafting the manuscript or revising it critically for important intellectual content, but who does not meet the criteria for authorship. Please also include the source(s) of funding for each author, and for the manuscript preparation. Authors must describe the role of the funding body, if any, in design, in the collection, analysis, and interpretation of data; in the writing of the manuscript; and in the decision to submit the manuscript for publication. Please also acknowledge anyone who contributed materials essential for the study. If a language editor has made significant revision of the manuscript, we recommend that you acknowledge the editor by name, where possible.

The role of a scientific (medical) writer must be included in the acknowledgements section, including their source(s) of funding. We suggest wording such as 'We thank Jane Doe who provided medical writing services on behalf of XYZ Pharmaceuticals Ltd.'

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

Endnotes

Endnotes should be designated within the text using a superscript lowercase letter and all notes (along with their corresponding letter) should be included in the Endnotes section. Please format this section in a paragraph rather than a list.

References

All references, including URLs, must be numbered consecutively, in square brackets, in the order in which they are cited in the text, followed by any in tables or legends. Each reference must have an individual reference number. Please avoid excessive referencing. If automatic numbering systems are used, the reference numbers must be finalized and the bibliography must be fully formatted before submission.

Only articles, datasets, clinical trial registration records and abstracts that have been published or are in press, or are available through public e-print/preprint servers, may be cited; unpublished abstracts, unpublished data and personal communications should not be included in the reference list, but may be included in the text and referred to as "unpublished observations" or "personal communications" giving the names of the involved researchers. Obtaining permission to quote personal communications and unpublished data from the cited colleagues is the responsibility of the author. Footnotes are not allowed, but endnotes are permitted. Journal abbreviations follow Index Medicus/MEDLINE. Citations in the reference list should include all named authors, up to the first 30 before adding '*et al.*'. .

Any *in press* articles cited within the references and necessary for the reviewers' assessment of the manuscript should be made available if requested by the editorial office.

Style files are available for use with popular bibliographic management software:

- [BibTeX](#)
- [EndNote style file](#)
- [Reference Manager](#)
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All web links and URLs, including links to the authors' own websites, should be given a reference number and included in the reference list rather than within the text of the manuscript. They should be provided in full, including both the title of the site and the URL, in the following format: **The Mouse Tumor Biology Database** [http://tumor.informatics.jax.org/mtbwi/index.do]. If an author or

group of authors can clearly be associated with a web link, such as for weblogs, then they should be included in the reference.

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Orengo CA, Bray JE, Hubbard T, LoConte L, Sillitoe I: **Analysis and assessment of ab initio three-dimensional prediction, secondary structure, and contacts prediction**. *Proteins* 1999,**43**(Suppl 3):149-170.

In press article

Kharitonov SA, Barnes PJ: **Clinical aspects of exhaled nitric oxide**. *Eur Respir J*, in press.

Published abstract

Zvaifler NJ, Burger JA, Marinova-Mutafchieva L, Taylor P, Maini RN: **Mesenchymal cells, stromal derived factor-1 and rheumatoid arthritis [abstract]**. *Arthritis Rheum* 1999, **42**:s250.

Article within conference proceedings

Jones X: **Zeolites and synthetic mechanisms**. In *Proceedings of the First National Conference on Porous Sieves: 27-30 June 1996; Baltimore*. Edited by Smith Y. Stoneham: Butterworth-Heinemann; 1996:16-27.

Book chapter, or article within a book

Schnepf E: **From prey via endosymbiont to plastids: comparative studies in dinoflagellates**. In *Origins of Plastids. Volume 2*. 2nd edition. Edited by Lewin RA. New York: Chapman and Hall; 1993:53-76.

Whole issue of journal

Ponder B, Johnston S, Chodosh L (Eds): **Innovative oncology**. In *Breast Cancer Res* 1998, **10**:1-72.

Whole conference proceedings

Smith Y (Ed): *Proceedings of the First National Conference on Porous Sieves: 27-30 June 1996; Baltimore*. Stoneham: Butterworth-Heinemann; 1996.

Complete book

Margulis L: *Origin of Eukaryotic Cells*. New Haven: Yale University Press; 1970.

Monograph or book in a series

Hunninghake GW, Gadek JE: **The alveolar macrophage**. In *Cultured Human Cells and Tissues*. Edited by Harris TJR. New York: Academic Press; 1995:54-56. [Stoner G (Series Editor): *Methods and Perspectives in Cell Biology*, vol 1.]

Book with institutional author

Advisory Committee on Genetic Modification: *Annual Report*. London; 1999.

PhD thesis

Kohavi R: **Wrappers for performance enhancement and oblivious decision graphs**. *PhD thesis*. Stanford University, Computer Science Department; 1995.

Link / URL

The Mouse Tumor Biology Database [<http://tumor.informatics.jax.org/mtbwi/index.do>]

Link / URL with author(s)

Corpas M: **The Crowdfunding Genome Project: a personal genomics community with open source values** [<http://blogs.biomedcentral.com/bmcblog/2012/07/16/the-crowdfunding-genome-project-a-personal-genomics-community-with-open-source-values/>]

Dataset with persistent identifier

Zheng, L-Y; Guo, X-S; He, B; Sun, L-J; Peng, Y; Dong, S-S; Liu, T-F; Jiang, S; Ramachandran, S; Liu, C-M; Jing, H-C (2011): **Genome data from sweet and grain sorghum (*Sorghum bicolor*)**. *GigaScience*. <http://dx.doi.org/10.5524/100012>.

Clinical trial registration record with persistent identifier

Mendelow, AD (2006): **Surgical Trial in Lobar Intracerebral Haemorrhage**. Current Controlled Trials. <http://dx.doi.org/10.1186/ISRCTN22153967>

Style and language

General

Currently, *Implementation Science* can only accept manuscripts written in English. Spelling should be US English or British English, but not a mixture.

There is no explicit limit on the length of articles submitted, but authors are encouraged to be concise.

Implementation Science will not edit submitted manuscripts for style or language; reviewers may advise rejection of a manuscript if it is compromised by grammatical errors. Authors are advised to write clearly and simply, and to have their article checked by colleagues before submission. In-house copyediting will be minimal. Non-native speakers of English may choose to make use of a copyediting service.

Help and advice on scientific writing

The abstract is one of the most important parts of a manuscript. For guidance, please visit our page on [Writing titles and abstracts for scientific articles](#).

Tim Albert has produced for BioMed Central a [list of tips](#) for writing a scientific manuscript. [American Scientist](#) also provides a list of resources for science writing. For more detailed guidance on preparing a manuscript and writing in English, please visit the [BioMed Central author academy](#).

Abbreviations

Abbreviations should be used as sparingly as possible. They should be defined when first used and a list of abbreviations can be provided following the main manuscript text.

Typography

- Please use double line spacing.
- Type the text unjustified, without hyphenating words at line breaks.
- Use hard returns only to end headings and paragraphs, not to rearrange lines.
- Capitalize only the first word, and proper nouns, in the title.
- All pages should be numbered.
- Use the *Implementation Science* [reference format](#).
- Footnotes are not allowed, but endnotes are permitted.
- Please do not format the text in multiple columns.
- Greek and other special characters may be included. If you are unable to reproduce a particular special character, please type out the name of the symbol in full. **Please ensure that all special characters used are embedded in the text, otherwise they will be lost during conversion to PDF.**

Units

SI units should be used throughout (liter and molar are permitted, however).

Appendix 4 – Materials

Participant Information Sheet

You are being invited to take part in a research study. Please read the following information carefully.

What is the purpose of the study?

This study is for Trainee Clinical Psychologists. We are interested in exploring your attitudes to family intervention with clients with Psychosis.

Why have I been chosen?

You are one of a number of people who have been asked to take part in the study because you are a trainee clinical psychologist working within the NHS.

Who is conducting the study?

The study is being conducted by a trainee clinical psychologist at the University of Liverpool.

What will happen to me if I choose to take part?

- You will be asked to read some information related to family intervention.
- You will then be asked to complete a short questionnaire about your attitudes to family intervention and your willingness to receive training in the area.
- The questionnaire should take no more than twenty minutes to complete.
- If you wish to leave an email address, you will be entered into a prize draw to win one of three £50 Amazon vouchers.

What if something goes wrong?

The study is unlikely to cause you any distress. In the event that something does go wrong and you are harmed during the research study there are no special compensation arrangements. If you are harmed and this is due to someone's negligence then you may have grounds for a legal action for compensation against The University of Liverpool or Mersey Care NHS trust but you may have to pay your legal costs. The normal National Health Service complaints mechanisms will still be available to you.

Is the information confidential?

All the information you give will be kept confidential. We will have assigned you a participant number and we will use this to identify you.

We will hold no other identifiable information about you.

Do I have to take part in the study?

Taking part in the study is entirely voluntary. You are free to withdraw at any time. To withdraw, please contact the researchers with the unique ID you were allocated, this can be seen by clicking on the exit button. Results up to the period of withdrawal may be used, if you are happy for this to be done. Otherwise you may request that they are destroyed and no further use is made of them.

How can I get further information?

If you have any questions about the study or you would like any further information, please contact:

Róisín Cunningham
Department of Clinical Psychology,
Whelan Building,
The Quadrangle,
University of Liverpool
L69 7ZA
Email: roisin.cunningham@liverpool.ac.uk

Survey Questions

Trainee survey & Demographic information

1: What is your age?

2: Please select your gender

3: Please indicate the region that your training course is in

4: Please indicate your level of experience working with clients with Psychosis, prior to entering Clinical Psychology training

5: Please indicate the type of experience you had working with this population, prior to entering Clinical Psychology training.

6: Please indicate your level of experience working with clients with Psychosis whilst in training.

Please indicate how experienced you are with the following therapeutic modalities.

	Little or no experience	Moderate experience	Lots of experience
7: Cognitive Behavioural Therapy (CBT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8: Interpersonal Therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9: Cognitive Analytic Therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10: Narrative Therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11: Psychodynamic Psychotherapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12: Acceptance and Commitment Therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13: Systemic/Family Therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14: Please indicate your previous level of research experience

15: Please rate your *level of confidence* in understanding and critiquing research evidence.

Not at all confident
(Click anywhere on the spectrum)
Very confident

EBPAS (adapted from Aarons, 2004)

Item	Score				
	Not at all	To a slight extent	To a moderate extent	To a great extent	To a very great extent
	0	1	2	3	4
1. I like to use a variety of therapy/interventions to help my clients.					
2. I am willing to try family interventions even if I have to follow a treatment manual.					
3. I know better than academic researchers how to care for my clients.					
4. I am willing to use types of therapy/interventions developed by researchers.					
5. Research based treatments/interventions are not clinically useful.					
6. Clinical experience is more important than using evidenced therapy/interventions.					
7. I would not use manualized therapy/interventions.					
8. I would try a therapy/intervention even if it were very different from what I am used to doing.					
For questions 9–15: If you received training in family interventions for psychosis, how likely would you be to adopt it if:					
9. it was intuitively appealing?					
10. it “made sense” to you?					
11. it was required by your supervisor?					
12. it was required by your service?					
13. it was required by the NHS?					
14. it was being used by colleagues who were happy with it?					
15. you felt you had enough training to use it correctly?					

Minimal information condition – brief history and problem description.

Brian was a 27 year old man who had experienced his first episode of psychosis whilst studying at university, and had been diagnosed as having Paranoid Schizophrenia. He had several relapses in the seven years since. He continued to study part-time at a university in his hometown. He had previously seen a clinical psychologist for Cognitive Behavioural Therapy (CBT) to help him cope with his auditory hallucinations, this did not lead to a decline in his voices but he became less distressed by them. Brian remained quite isolated in his life, having few social activities or interests, choosing instead to remain indoors. Brian wanted to change this behaviour but felt unable to do so. There were concerns from Brian's care coordinator that Brian's isolation left him more vulnerable to relapse.

Brian lived alone but had very regular contact with his parents, particularly his mother who was very involved in his care and life, often to the detriment of her own well-being and family life. His relationship with his father was more distant and was not very demonstrative, partially due to tensions around Brian's illness, treatment and relationship with his mother.

Case study condition

Family based Intervention in psychosis: Case Example¹

Family based interventions for psychotic disorders are well researched and have been found to be effective. Moreover, they are recommended as part of the treatment package recommended by the National Institute of Clinical Excellence (NICE) in the UK. However, in many services they have been found to be difficult to implement, despite evidence that shows that they can be implemented effectively in NHS settings. Below is an illustrative example of what such interventions might be comprised of and how the needs of service users and their relatives can be addressed effectively.

Mrs Black and Brian

Brian Black was referred to the CMHT seven years previously after experiencing his first psychotic episode whilst at university. He had had several episodes of relapse but maintained studies at university on a part-time basis, close to the family home.

Assessment session 1: Brian

Brian had seen the team clinical psychologist for CBT to help cope with intermittent auditory hallucinations. The intervention did not lead to a decline in his voices, but he was much less distressed by them and found them less intrusive. He had a good rapport with the clinical psychologist.

The possibility of family based intervention was discussed with Brian. He was hesitant about its implementation and dubious about the impact on his parents. He was clear however, that if it might be useful to his parents he would go along with it. The therapist emphasised that throughout the sessions he should feel as much in the 'driving seat' as possible and that he should be involved fully in decision making.

Key areas he highlighted for focus of intervention were pressures on his mother, leisure time for himself and continuing to study for his degree on a part time basis

Assessment session 2: Madeleine and Frank

Brian's mother, Madeleine, and father, Frank attended. It was clear that Frank had become disenchanted with services; he thought that his son's medication caused more harm than good and felt he was too busy to attend sessions regularly. Areas for focus of intervention highlighted included: need for information about Brian's problems, help with preventing

¹ This case summary is a fictionalised account of an intervention. It is based closely on a combination of real cases (with relevant details changed) seen in the context of community mental health team work in the NHS.

relapse, coping with negative symptoms, particularly anergia, social withdrawal and inactivity; depression; smoking heavily; and finally Madeleine's worry about Brian and her feelings of guilt about his problems.

It was noteworthy that they did not highlight family relationships as an area for attention or There were clear tensions between Madeleine and Frank, particularly with regard how to manage Brian's negative symptoms. Frank preferred and argued for a more 'hands off' approach but Madeleine thought that this would lead to an exacerbation of symptoms and worsening of Brian's depression.

The care they provided was dominated by Madeleine. She would visit Brian in his flat on a daily basis, make sure he was up and ready to go to lectures when they were timetabled for the morning, having had some breakfast. At weekends he would stay with his parents on Saturday evening "...having had a decent meal..." for "Sunday Lunch."

Assessment Session 3

Madeleine and Brian attended but Frank did not. The aim of the session was to agree a programme of sessions covering the areas of need highlighted by Brian and Madeleine. The initial focus, as guided by their therapist, was on the education component of the intervention, taking three to four sessions. Then the priority was to focus on Brian's daily routines and social life, which both parties agreed were important. Five to six sessions would focus on this. It was also agreed that a further focus would be to ease the pressures on Madeleine, including her worry and guilt. The final sessions would focus on developing an early signs monitoring and relapse prevention plan.

Educational component and assessment

The first session's main focus was to understand what Madeleine and Brian understood about his problems. His diagnosis was 'paranoid schizophrenia'. They understood the nature of positive symptoms but neither was aware of the negative symptoms associated with this diagnosis. Brian's Father could be critical of his lack of energy and activity and thought that he would have better mental health if he reduced his medication and did more with his life. Madeleine thought that the negative symptoms were a result of depression and that without her input, Brian would decline, become more depressed and eventually psychotic.

On discussing medication and its side effects, Brian's mother wanted to know whether his medication could be reduced. There were a number of significant side effects over and above the general sedation that Brian experienced. The therapist agreed to discuss medication with Brian's Psychiatrist and ask for a review of the dose. Relevant literature was provided to the family concerning the nature of schizophrenia and its treatment.

Meeting with Psychiatrist

The psychiatrist was enthusiastic about the intervention and she had found Brian's parents to be highly involved in asking questions. However, she had not met them for over a year, since his last brief admission to hospital. She reported that since that time she had been

trying to persuade Brian to reduce his medication little by little, but that he had been reluctant to, for fear of relapse. His auditory hallucinations had been particularly unpleasant and intrusive during the acute episode. Brian had not been open with his parents about his experiences or his fear of reducing medication.

Further education Sessions

The next two sessions focussed on answering questions and highlighting the stress vulnerability model of psychosis, including a 'normalising' rationale for both negative and positive symptoms.

The comments from the psychiatrist were fed back sensitively and the full range of potential benefits and side effects of medication discussed. It was agreed that only Brian could decide what was best for him, but that he may gain confidence during further sessions and once the relapse prevention strategies were in place then a further goal might be to reduce his medication.

There was also some attention paid to the nature of depression, particularly with respect to cognitive and behavioural maintaining factors. In Brian's case this involved a certain degree of social isolation and lack of structure, other than that provided by his course and his mother. He also felt himself to be the 'odd one out' at the university. He was older than other undergraduates, was working part time and had not integrated into the social scene around his Department or the Student Union. He was also concerned that people would know about his psychosis and not want to be with him anyway.

Strengths and needs

The next stage involved eliciting jointly agreed goals, which in turn were based on strengths and needs identified. Examination of strengths led to a palpable change in atmosphere where both Madeleine and Brian talked about things in an animated way and Madeleine expressed some pride in Brian's qualities.

Examples of Strengths:

- Good at driving
- Intelligent – had succeeded in going to university
- Determination to follow through on things in long term
- Good at playing with Nephew
- Helps family with computers
- Good at 'computer related things'
- Very good, dry, sense of humour

Three key areas of need were identified and agreed, these were also linked to the areas highlighted by Madeleine during the assessment stage.

Examples of Brian's Needs

- To look after own flat
- Do own housework
- Develop a wider social circle

These in turn were translated into goals comprised of smaller target tasks with the aim of providing a stepwise progression to goal attainment.

Example of goal planning

Target: Brian will use the launderette on Saturday mornings. This involved Madeleine agreeing to leave Brian to his own devices on Saturday mornings and initially texting him a reminder on the first two Saturdays. Over a period of four weeks Brian established this as his Saturday morning routine.

Sessions concerning pressure on Madeleine

It was clear from the assessment interviews that the Madeleine had very little leisure time and found it difficult to relax. She stated that she felt that she shouldn't take so much responsibility for Brian's attendance at university and self care but felt that she had no alternative. She recognised (in fact this was without prompting from the therapist) that he might not otherwise become independent. She also recognised that in some sense he may have been held back by her caring role. The therapist ensured that she was also able to recognise that without her help he may have ended up in a much worse position. This is because carers exhibiting emotional over-involvement already tend to blame themselves for problems seen in the service user they are trying to help. This self blame is unhelpful and it is important to recognise that this is a *normal* response in parents. Both agreed that they should tackle Brian's problems with a view to Madeleine developing her own outlets.

Madeline's homework tasks

The therapist asked Madeleine what she would choose to do whilst Brian was doing his laundry on Saturday mornings. Although she initially found it difficult to consider things she would like to do she expressed an interest in yoga. She had heard that it was good for you and helped with relaxation. The therapist encouraged this idea, but emphasised that she should also find things that she would find pleasurable and engaging for their own sake.

She agreed to check whether there was a suitable yoga class on Saturday mornings, and agreed that if there was, she would sign up and attend the class. Discussions were held around future homework tasks for Madeleine. Madeline reluctantly told the therapist that she had a close friend with whom she frequently discussed visiting, but had never actually managed to do so. Madeline felt that her friend lived too far away for her to commit to a visit as she worried that she would be unable to get back if Brian needed her. Madeline was aware that she needed to let go of these concerns, but currently felt like this was too much. The therapist asked Madeline if she could think of a more acceptable alternative. Madeline agreed that she could arrange to meet her friend halfway between their homes, a journey that would be possible if she were to be needed at short-notice. She then felt she would be able to consider being away for the weekend.

At the next session, Madeline reported that she had found a yoga class near to her house and that she had intended to attend but that she had not been able to. When asked, Madeline said that she had instead gone to look after her grandchildren, as her daughter needed to go shopping. The therapist asked Madeline whether her daughter had asked her to babysit and whether it would have been possible to babysit later in the day or the following day. Madeline admitted that she had offered to babysit as she felt that her daughter had sounded 'stressed' on the phone. Further discussion revealed that Madeline felt guilty about taking time for herself when she 'should have been looking after her children'. The therapist explained the rationale for Madeline becoming more involved in her own life. Madeline became quite upset and told the therapist that she felt guilty and ashamed of herself. Madeline had always felt guilty for time spent on herself as opposed to her son and daughter. Whilst she realised now that it was important that Brian gained some independence, she now felt very guilty about the time she had devoted to Brian over his sister. Madeline also felt that her daughter had been more independent as a result of this and that she very rarely needed her mother. She told the therapist that she felt a bit lost and that if she wasn't needed by her children, she didn't know what she was supposed to be doing. She also reported a real feeling of shame that she felt this way.

A further session focused on Madeline exploring these feelings and considering new roles she could hold within her family. Madeline had fond memories of her own grandmother who she described as being 'lots of fun'. Madeline realised that with more free time, she would be able to build this kind of relationship with her own grandchildren. She was able to acknowledge, that while her feelings were difficult to hold, she now had the opportunity to form new and different relationships with both of her children and that, in order to do this, she would have to fulfil her own needs. Madeline returned to the next session having attended and enjoyed her yoga class, she had not yet met her friend but had made a firm arrangement and planned her travel.

Sessions concerning communication with Father (Frank)

During sessions it was clear that Brian and his father did not communicate readily. They had little contact, including during weekends when Brian was visiting. Frank tended to work long hours during the week and used the weekend to recuperate. There was no open hostility although Frank tended to be critical of Brian, services, and to some extent, Madeleine, who he felt overly indulged Brian, thus inhibiting his recovery and independence.

It was also clear that Brian could stand in his father's shoes and realised that he must tend to be tired and uncommunicative because of his work schedule. It was also apparent that Brian missed the relationship they had enjoyed previously.

In order to address the loss of this relationship and extend his own leisure, it was agreed that he would invite his father for a drink at a local pub where they could watch a football match together and re-establish rapport. It also meant that Brian was taking the initiative in developing a routine whereby he showed concern for their relationship (without actually being explicit) and his father.

Follow up

Brian implemented this plan the weekend following that session and was relatively ebullient about the results. Frank had been pleased to accept the invitation and they had watched a match together. In addition they had talked “more than we have done for years” and had planned to do the same thing the following weekend. This had a substantial impact on the relationship over time and led to other occasional joint activities.

A secondary effect of this was that Madeleine had two or three hours to herself at the weekend.

Early signs monitoring and relapse action plan

This involved a detailed description of the events leading up to Brian’s last relapse. Initially Brian and Madeleine were reluctant to discuss the events leading up to his last relapse. They were concerned about “raking over the coals” of something they would rather put behind them. There was also some concern that discussing early signs and symptoms might provoke their occurrence. This was discussed with the therapist. On occasions people do have or notice early signs whilst working on this component of therapy, however, it generally provides a good opportunity to implement helpful strategies upon which to base preventative actions.

The process started with a brief summary of the events surrounding Brian’s admission, including signs and symptoms. Then the interviews covered events working backwards in time with as much detail as possible. This was aimed at identifying the first clear symptoms and where his decline was first noticeable. From this point events prior to this were discussed with an emphasis on identifying the earliest possible warning signs that things were not going well.

Admission: December

Suicidal ideation

Extreme social withdrawal

Mother unable to contact him

Weight loss

Shopping delivered to door

Staying in flat for long periods

Hygiene neglected

Voices: telling him to kill himself because he is useless and a criminal

Concerned that the police were tracking him

Persecutory delusions.

November

Computers were stolen from Dept in the University

Avoiding watching crime watch and police dramas (“I thought I was going to be on Crime Watch”).

Checking street for police cars

Voices starting to focus on him being a criminal

October

Restless

Lots of new people

Muttering to himself (comment from his sister – relayed to Madeliene)

Irritable with Madeleine

Had passed exam

Sept

Beginning of new term enjoying certain courses

Gradual decline

Not sure when it started

Exams June – needed to re-sit paper

August

Family holiday

Drinking on holiday/dehydration?

Younger Sister's 21st birthday

- Lots of guests
- At local cricket club
- Spent most of time playing football with Nephew
- Joined a little when some guests had left
- Found it difficult to follow conversations.

Final agreed list of early signs

- Restless
- Withdrawn (more than usual)
- Pacing up and down/running hands through hair
- Not eating properly
- Re-living the day to make sure had not committed a criminal offense

Risks

- big social occasions
- holidays abroad
- exams
- Big changes to routines

Homework tasks initially involved the completion of the early sign checklist. Sessions then moved on the development of an action plan for the eventuality of exacerbation of early warning signs.

Early Warning sign	Absent	Noticeable	Severe
Being irritable with Mum			
Doing less			
Being more quiet than usual			
Restless			
Pacing up and down/running hands through hair			
Not eating properly			
Re-living the day to make sure had not committed a criminal offense			
Losing confidence/Feeling unable to do things			
Danger sign	Absent	Noticeable	Severe
Voices focus on crime			
Checking crimewatch/news/police dramas			
Feeling depressed			
Big Event "Stress" (holidays, exams etc)			

Action plans

If early signs become noticeable

If you are under pressure see if these can be eased in any way. For example if academic work builds up and you are worried about it you could ask for an extension on deadlines. Physical activity can also be useful if you have a regular routine. You can also arrange to meet with J..... A..... your care coordinator just to think things through and know that you have got a 'listening ear'. She will help you stick to the action plan. Don't avoid seeing your family and friends. Remember that once you are with them you usually enjoy it.

If you start being concerned about criminal offenses then this would be the time to review the CBT session sheets you completed with S..... S.....

If danger signs are apparent then you can If problems persist contact L~~~~~ H~~~~~ (808 1234) and talk things through. You may wish to arrange a possible respite stay at K***** House and / or review your medication with Dr J***** (phone number).

General Outcomes

1. Symptoms

Brian continued to hear voices intermittently, but realised that this occurred less than he expected when he was monitoring for early signs. He rarely felt self-conscious whilst in his department at the university but still expressed concern when socialising.

2. Social and independent functioning

Brian had become wholly responsible for his laundry and keeping his flat clean. He had also extended his repertoire of recipes that he could make easily for himself. He continued to spend time with his father on Saturdays and had developed a couple of acquaintances into friendships.

3. Pressure on Madeleine

This had reduced although she did not 'let go' of helping with some domestic and university related tasks. She reported feeling more confident and positive about Brian's prospects, but continued to worry sometimes about the longer term future. Madeleine halved the hours spent with, or taking caring role, with Brian.

4. Engagement with service

Medication had been reduced by the smallest possible degree with Brian wanting to change this as carefully as possible. Early signs monitored most weeks in collaboration with the care coordinator monthly meeting.

There had been no further relapses up to three years later although there had been one minor 'episode' after 6 months. The action plans were implemented and two further 'top-up' family sessions were arranged in collaboration with Brian's care coordinator in response to this.

Assessments	Pre Intervention		Post Intervention	
Delusions PSYRATS	22		18	
Hallucinations PSYRATS		12		4
Depression (Calgary Scale)	11		7	
GHQ (Madeleine)	17		4	

Summary

Although the whole family did not engage in the intervention and the service user was initially reluctant, the intervention provided a practical approach to the problems faced by Madeleine and Brian. Brian's father benefitted too and appreciated the changes made, particularly in Madeleine. It should be noted that many details are missing from this summary and some of the subtleties of the intervention are not described. However the case description shows the intervention is conceptually fairly straightforward and that the approach can be used flexibly, in an individualised way in the NHS.

Research summary condition.

Family-based intervention for long-term psychosis

Family based interventions for long term psychoses, essentially schizophrenia and schizoaffective disorder, have been researched widely and found to improve outcomes for both service-users and their families. The interventions, largely based on cognitive behaviour therapy principles, assume that service users are sensitive to stress and that psychosis is one outcome of stress (stress vulnerability model reference). The focus of treatment has been “expressed emotion” (EE).

Expressed Emotion

EE describes certain behaviours which have been linked to increasing the risk of relapses in a wide variety of mental disorders (Butzlaff & Hooley, 1998). These include criticism, hostility and emotional over-involvement (EOI). Hostility in this context means making negative statements about the character or personality of the service user, such “he is lazy”. Emotional over-involvement includes taking responsibility for and being protective of the service-user. This can include a devotion to the caring role, involving the relative giving up their needs, for perceived benefit to the service user. Relatives with EOI also exhibit a wide array of negative emotions. It can be seen from Figure 1 that not only do those service-users discharged to high expressed emotion homes have higher rates of relapse, but the amount of face to face contact with high expressed emotion relatives also has an impact. The more exposure to high EE there is, the greater the risk of relapse.

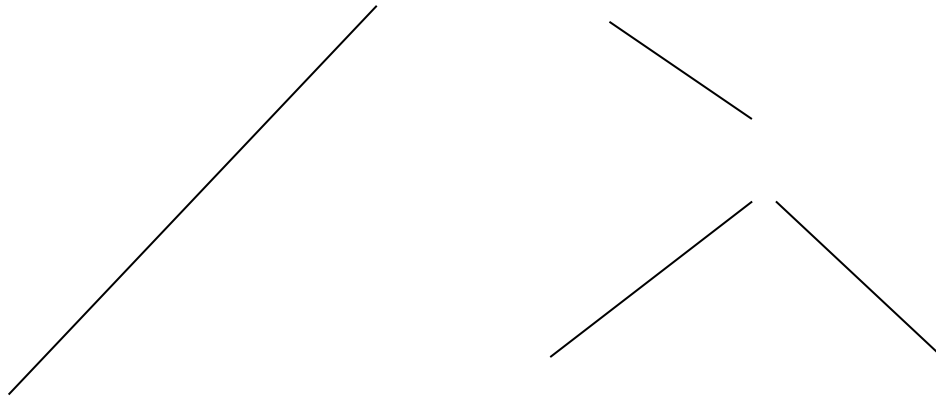


Figure 4 Percentage relapse rates during nine months post discharge for those with a diagnosis of schizophrenia (Vaughn and Leff, 1976)

Given the clear links between EE and relapse it is not surprising that a number of research groups have developed interventions for families to help reduce these behaviours. *It should be noted that EE is in no way considered to be 'abnormal'; it should be considered to be a common reaction to a difficult situations and this is acknowledged in interventions.*

Family based intervention

Different research groups developed programmes for families through the 1980s. Although they differed in certain specific ways there were features common to the interventions demonstrating efficacy. All had sessions focusing on educating family members and, of course, in changing expressed emotion behaviours such as criticism and over protectiveness. Each group developed interventions that tackled practical everyday problems faced by families with a view to fostering independence in service users and reducing stress in carers.

The results of early randomised trials were very positive with cost effective reductions in relapse rates from 50% to 20% nine months post-discharge from in-patient care. Independence in service users was increased and there were positive effects for family members too.

Subsequently a large number of such trials have been conducted and the results continue to favour family interventions for this group. For example, recent meta-analyses have found that risk of relapse is halved and that the mean effect size is approximately 0.5 (Pharoah *et*

al, 2006; Pilling *et al*, 2002) slightly better than that found for individual CBT for psychosis (0.4; Wykes *et al*). There is also evidence that the effects of these interventions last for at least several years

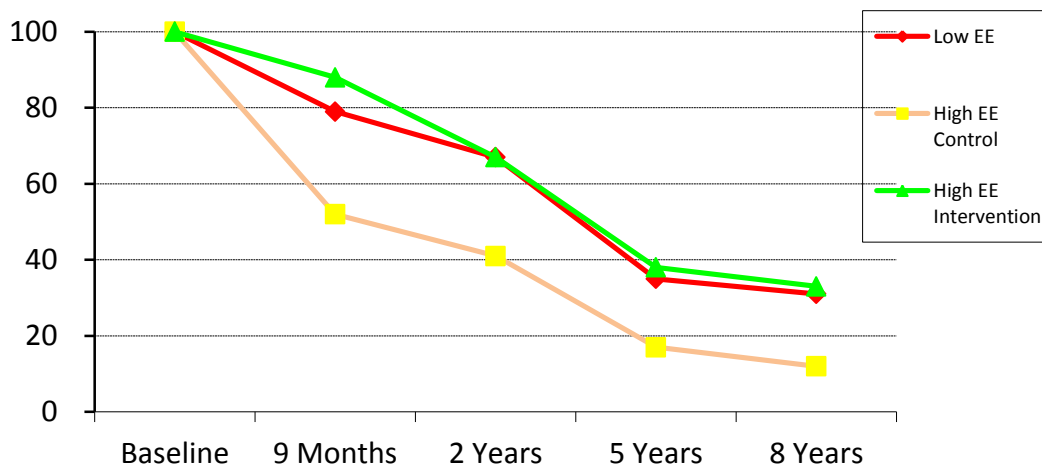


Figure 5 Long term impact of family base intervention on relapse: per cent relapsed from baseline to eight years follow-up (Tarrier *et al*, 1994)

What about family intervention in the National Health Service (NHS)?

According to the National Service Framework for Mental Health (*DoH 1999*), all individuals who provide regular and substantial care for a person on the CPA should:

- a) *have an assessment of their caring, physical and mental health needs, repeated on at least an annual basis*
- b) *have their own written care plan which is given to them and implemented in discussion with them*

“Carers play a vital role in helping to look after service users of mental health services, particularly those with severe mental illness. Providing help, advice and services to carers can be one of the best ways of helping people with mental health problems. While caring can be rewarding, the strains and responsibilities of caring can have an impact on carers own mental and physical health. These needs must also be addressed by health and social services”.

One trial conducted in the NHS suggests that it is practical to deliver family intervention in routine services (Barrowclough *et al* 1999; Sellwood *et al* 2001). In this study all service users with a schizophrenia spectrum diagnosis were included and given that low EE relatives have needs as well as those with high EE these were included as well. The therapy was delivered by a clinical psychologist working with Community Mental Health Teams (CMHTs)

and where possible the care coordinator attended therapy sessions. Interventions were delivered over a 24 week period and were based on what the key informal caregiver highlighted as their main needs (assessed using a structured interview; Barrowclough *et al* 1998). During the six month treatment period the rate of relapse in the intervention group was half that observed in the control group (Barrowclough *et al*, 1998) and this ratio continued through the first year from baseline (Sellwood *et al*, 2001) and effect was maintained over five years (Sellwood *et al* 2007). It should be noted that the trial therapist did not receive extra training but did receive supervision on complex cases.

The research base in this area led the National Institute for Health and Clinical Excellence to recommend that NHS services should offer family intervention to “...families of people with schizophrenia living with or in close contact with the service user” (NICE,2009).

Despite positive results for family intervention, NICE recommendations and Government policy the provision of family based interventions in the NHS is limited and examples of good practice isolated. In order to overcome this problem training programmes have been developed aiming to provide mental health professionals with the skills to deliver these interventions. However, despite training, problems with implementation remain. For example, in one study the number of families seen by graduates in the nine months immediately after training was 1.7. Forty per cent of families were seen by just eight per cent of therapists and fifty six per cent of therapists reported having difficulties with implementation (Fadden, 1997). Many of the intervention sessions were carried out in therapists’ personal time. Focus groups reveal that this may have been because staff returned to their previous work and caseload; there was a lack of access to supervision; a lack of recognition by others and lack of a service structure specific to delivering these interventions.

One professional group stands out as being the most likely to be able to deliver family based interventions for psychoses. Clinical psychologists meet a number of requirements for their delivery. They are scientist practitioners with a high degree of therapy skill and training in both CBT and working with families. Most CMHTs and early intervention teams have access to clinical psychology and psychologists already see service users with psychosis/schizophrenia. In addition, psychologists exert control over case load and content in a way other mental health professionals may be unable to. Below is listed some of the Health Professions Council’s Standards of Proficiency for Practitioner Psychologists (Health Professions Council, 2009), a number of which relate specifically to clinical psychologists (those in *italics* listed below):

- understand the need to engage service users and **carers** in planning and evaluating diagnostics, treatments and interventions to meet their needs and goals
- recognise the value of research to the critical evaluation of practice

- be able to engage in evidence-based practice, evaluate practice systematically, and participate in audit procedures
- be able to change their practice as needed to take account of new developments
- *be able to draw on knowledge of development, social and neuropsychological processes across the lifespan to facilitate adaptability and change in individuals, groups, **families**, organisations and communities*
- *be able to implement interventions and care-plans through and with other professionals and/or with individuals who are formal (professional) carers for a client, or **who care for a client by virtue of family or partnership arrangements***
- *be able, on the basis of psychological formulation, to implement psychological therapy or other interventions appropriate to the presenting problem and to the psychological and **social circumstances of the client***
- *be able to implement therapeutic interventions based on a range of evidence-based models of formal psychological therapy, including the use of **cognitive behavioural therapy***
- *understand psychological models related to working with individual clients, **couples, families, carers**, groups and at the organisational and community level*

Given these expectations of being registered as a clinical psychologist and the evidence base, it is clear that clinical psychologists working in relevant services should be moving forward in the delivery of family based interventions in long-term psychosis.

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Dependent measures questionnaire (adapted from Stuart & Chambless, 2010).

1. Do you see service users with psychosis in your practice? Yes/No

2. If yes, what percentage of your service users have psychosis? _____

Regardless of your answer to #2, please assume that you see psychosis patients for the remainder of this questionnaire. Please use the following rating scales to give your impressions of how helpful Family Intervention in Psychosis would be in your practice. Please circle your responses.

3. How appropriate does Family Intervention in Psychosis seem to you?

1	2	3	4	5	6	7	8	9	10
Not at all				Moderately				Extremely	
likely.				appropriate				appropriate	

4. How confident are you that Family Intervention would reduce the severity of psychosis in your service users?

1	2	3	4	5	6	7	8	9	10
Not at all				Moderately				Extremely	
confident				confident				confident	

5. How likely would you be to use Family Intervention (assuming you had adequate training) for a service user with psychosis?

1	2	3	4	5	6	7	8	9	10
Not at all					Moderately likely			Extremely Likely	
likely.									

6. Is there another psychotherapeutic approach you would be likely to use for service users with psychosis?

Yes/No

7. If yes, what is it? _____

8. How likely would you be to seek out and complete workshop training in Family Intervention for psychosis. Assume this workshop is either in your community or at a conference you are attending.

N/A – I have already had extensive training in Family Intervention in Psychosis

1 2 3 4 5 6 7 8 9 10

Not at all Moderately likely Extremely Likely

likely.

9. How likely would you be to seek out and complete workshop training in some other treatment for psychosis? Assume this workshop is either in your community or at a conference you are attending.

1 2 3 4 5 6 7 8 9 10

Not at all Moderately likely Extremely Likely

likely.

10. How likely would you be to seek out and complete home-study (books, tapes or web-based training) in Family Intervention in Psychosis?

N/A – I have already had extensive training in Family Intervention in Psychosis

1 2 3 4 5 6 7 8 9 10

Not at all Moderately likely Extremely Likely

likely.

11. How likely would you be to seek out and complete home-study (books, tapes or web-based training) in some other treatment for psychosis?

1 2 3 4 5 6 7 8 9 10

Not at all

Moderately likely

Extremely Likely

likely.

12. How many hours would you be willing to devote for training in Family Intervention in Psychosis in a workshop? _____

13. How many hours would you be willing to devote for training in Family Intervention in Psychosis in a home-study program? _____

14. How much money would you be willing to spend for training in Family Intervention in Psychosis?

15. We are interested in your views of using Family Interventions when working with clients who have Psychosis. Please use the space below to give your views on why you would or would not use family interventions

Appendix 5 – Assumptions testing for MANOVA

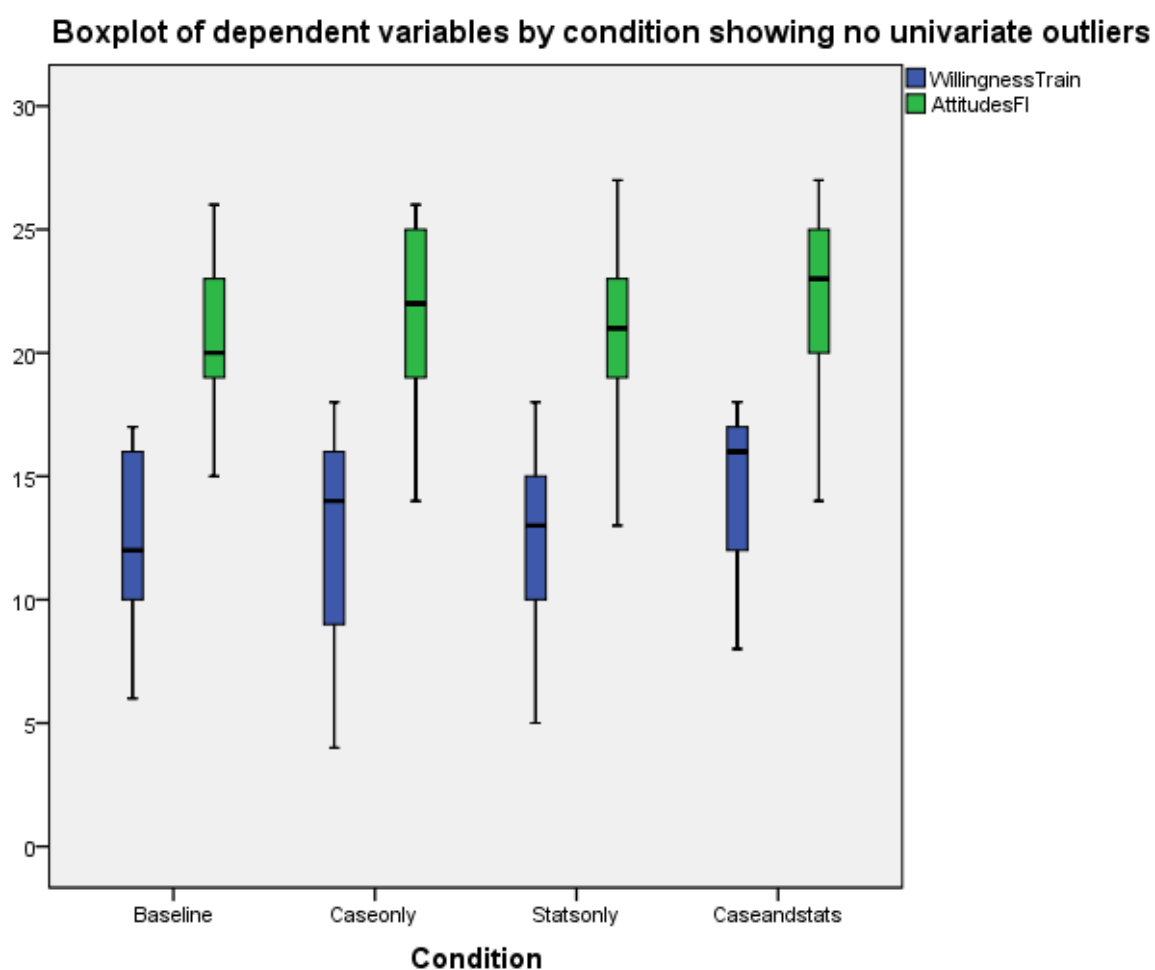


Figure 6 Boxplot of DVs by condition showing no univariate outliers

Table 10 Normality tests

	Condition	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Willingness to Train	Baseline	.182	25	.033	.913	25	.035*
	Caseonly	.145	26	.171	.931	26	.081
	Statonly	.127	25	.200*	.974	25	.749
	Caseandstats	.245	28	.000	.894	28	.008*
Attitudes to family intervention	Baseline	.210	25	.006	.937	25	.124
	Caseonly	.190	26	.016	.866	26	.003*
	Statonly	.145	25	.186	.957	25	.365
	Caseandstats	.164	28	.052	.922	28	.039*

* Data is not normally distributed

Table 11 Correlations between willingness to train and attitudes to family intervention

		Willingness to Train	Attitudes to family intervention
Willingness to Train	Pearson Correlation	1	.580**
	Sig. (2-tailed)		.000
	N	104	104
Attitudes to family intervention	Pearson Correlation	.580**	1
	Sig. (2-tailed)	.000	
	N	104	104

** . Correlation is significant at the 0.01 level (2-tailed).

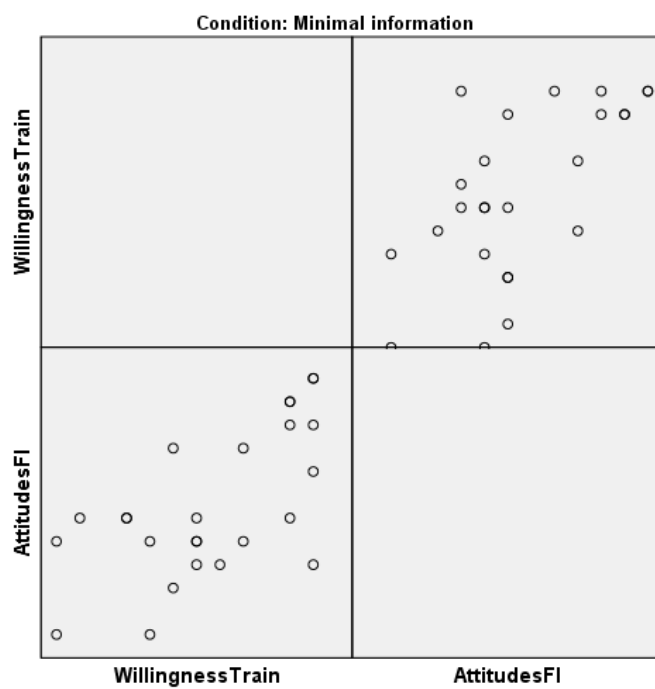


Figure 7 Scatterplot of the dependent variables in the minimal information condition showing a linear relationship

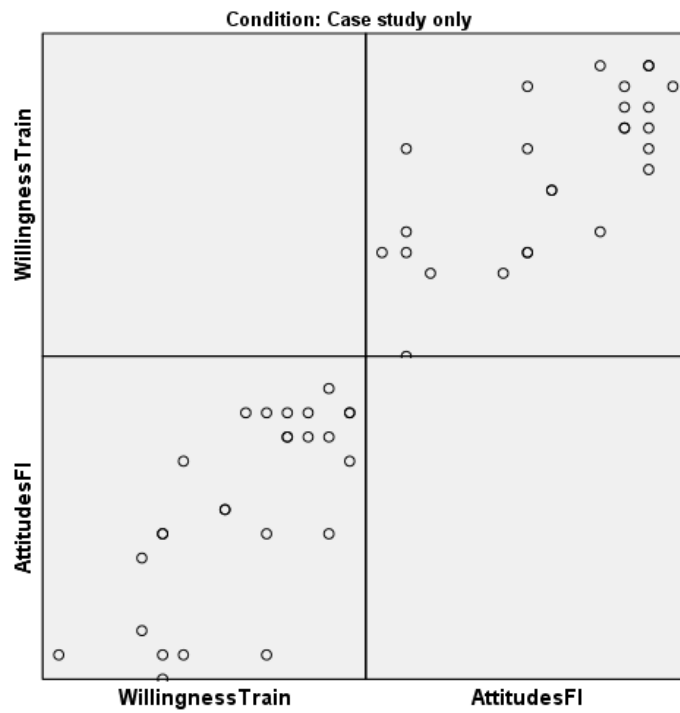


Figure 8 Scatterplot of the dependent variables in the case study only condition showing a linear relationship

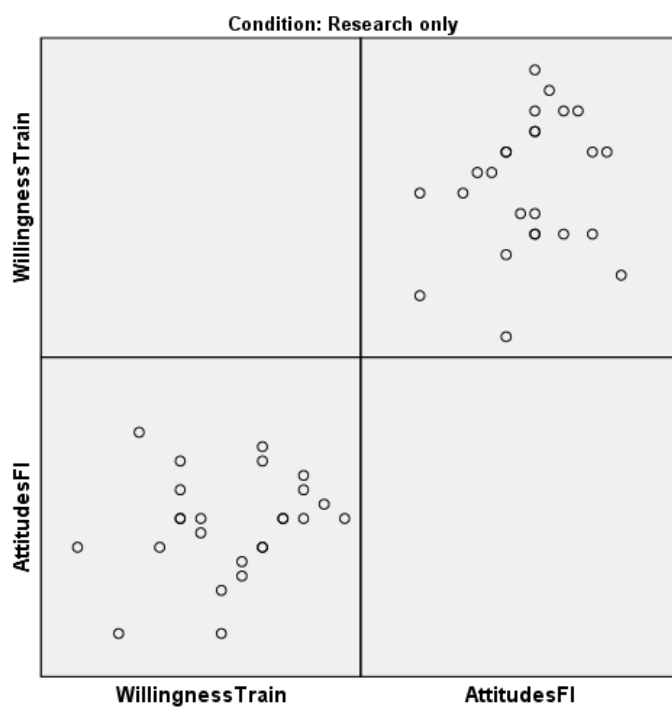


Figure 9 Scatterplot of the dependent variables in the research condition showing a linear relationship

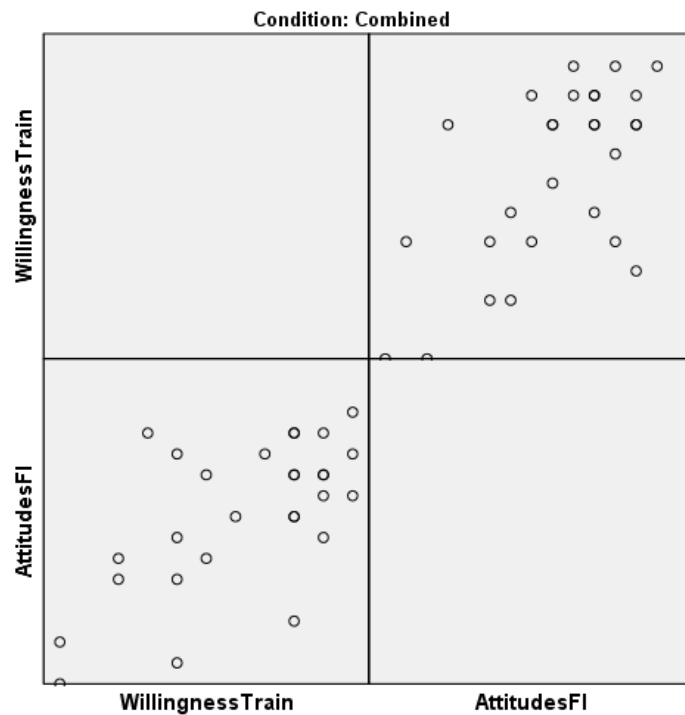


Figure 10 Scatterplot of the dependent variables in the combined condition showing a linear relationship

Table 12 Box's Test of Equality of Covariance Matrices

Box's M	10.831
F	1.160
df1	9
df2	110764.285
Sig.	.316

Table 13 Levene's Test of Equality of Error Variances

	F	df1	df2	Sig.
WillingnessTrain	.766	3	100	.516
AttitudesFI	.698	3	100	.555

Appendix 6 – Assumption testing for regression analyses

Table 14 Correlations between EBPAS subscales, willingness to train and attitudes to family intervention

	Willingness to Train	Attitudes to family intervention	EBPAS-Requirements	EBPAS -Appeal	EBPAS -Openness	EBPAS -Divergence
Willingness to Train	1	.580**	.047	.168	.287**	-.060
Attitudes to family intervention		1	.312**	.340**	.426**	.147
EBPAS -Requirements			1	.547**	.215*	-.078
EBPAS -Appeal				1	.435**	.187
EBPAS -Openness					1	.145
EBPAS -Divergence						1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 15 Durbin-Watson statistic for EBPAS openness regressed onto willingness to train showing independence of residuals

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.287 ^a	.083	.073	3.28824	1.888

Table 16 Durbin-Watson statistic for EBPAS appeal, openness & requirements regressed onto attitudes to family intervention showing independence of residuals

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.486 ^a	.237	.213	3.188	2.304

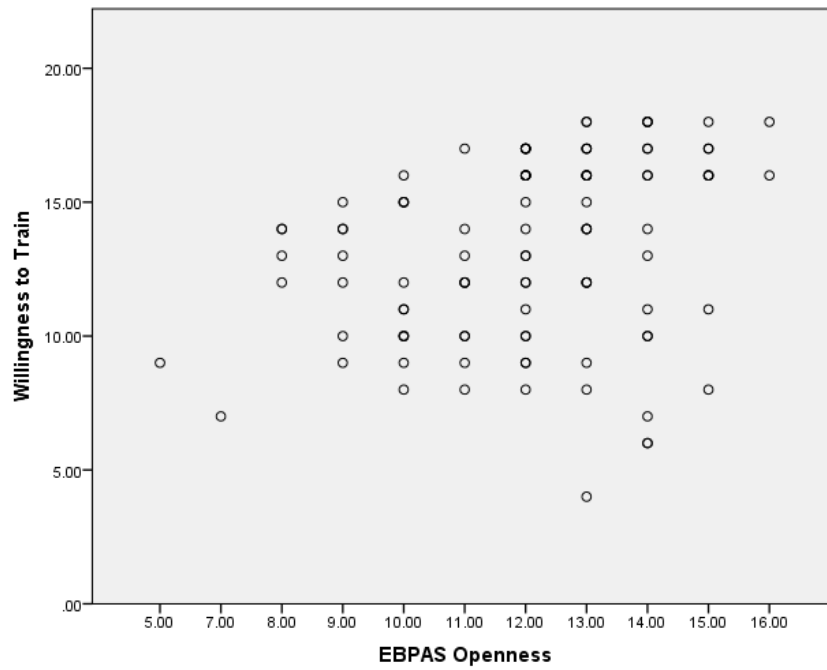


Figure 11 Scatterplot of the relationship between EBPAS openness subscale and willingness to train

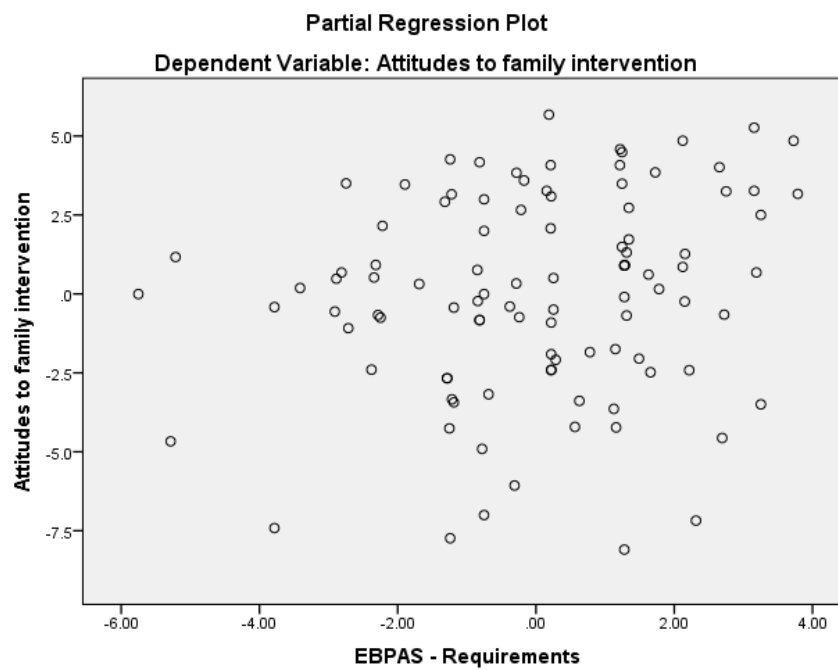


Figure 12 Scatterplot of the relationship between EBPAS requirements subscale and attitudes to family intervention

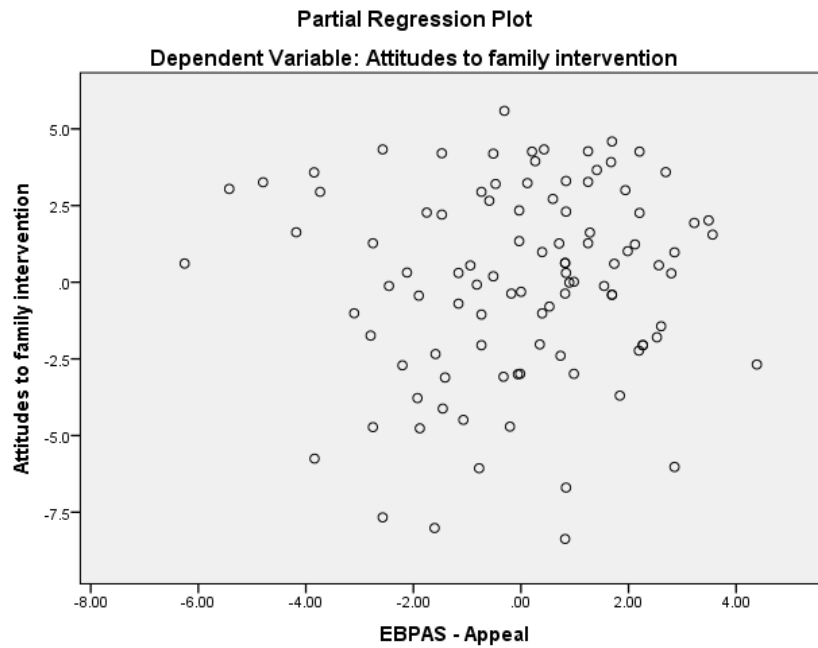


Figure 13 Scatterplot of the relationship between EBPAS Appeal subscale and attitudes to family intervention

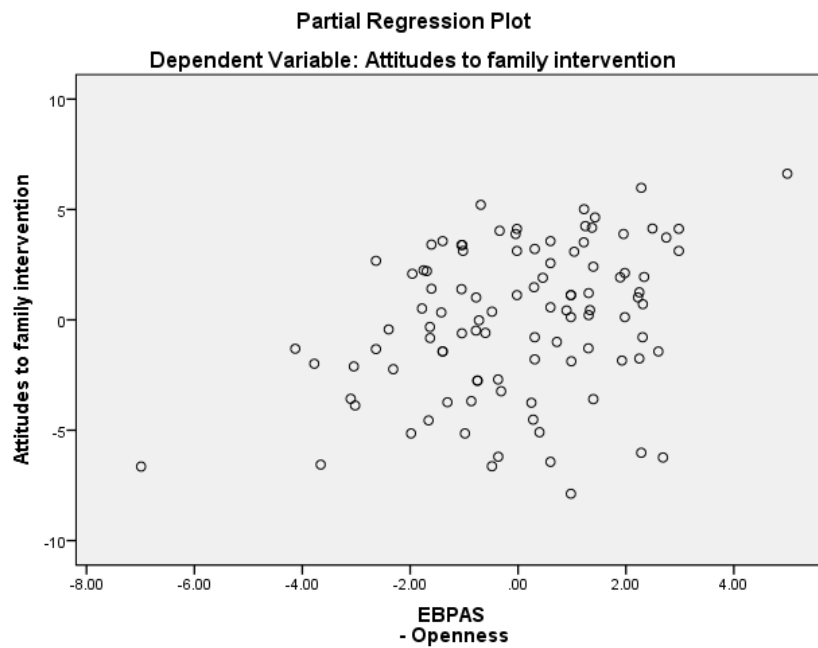


Figure 14 Scatterplot of the relationship between EBPAS Openness subscale and attitudes to family intervention

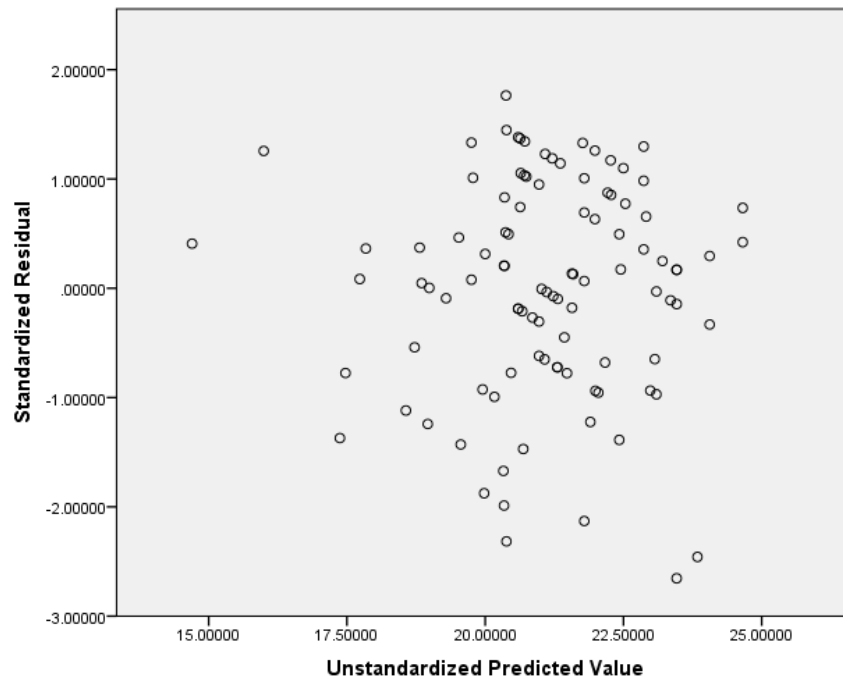


Figure 15 Scatterplot of standardized residuals against predicted values for EBPAS openness, requirements and appeal subscales regressed onto attitudes to family intervention

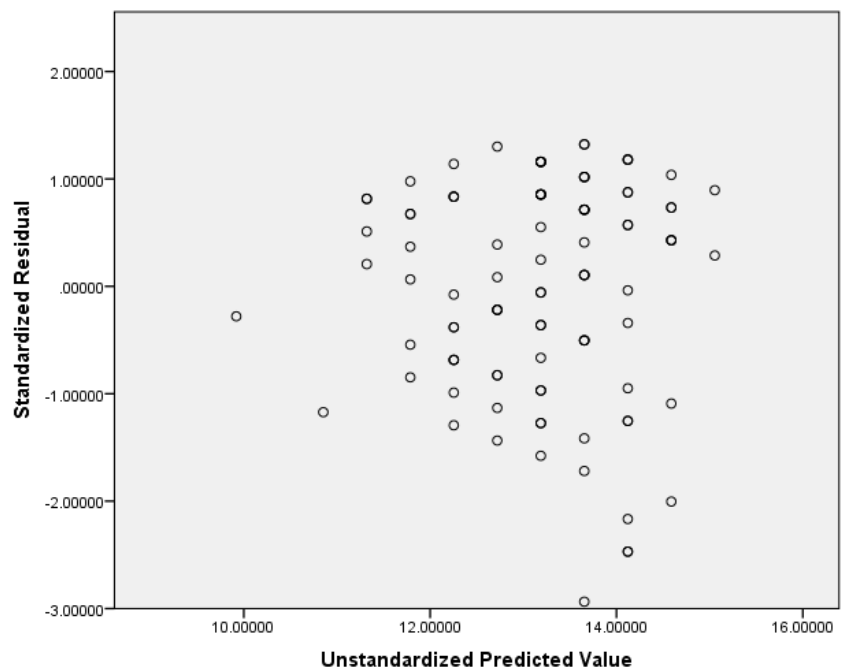


Figure 16 Scatterplot of standardized residuals against predicted values for EBPAS openness subscale regressed onto willingness to train

Appendix 7 – Confirmatory Factor Analysis of the EBPAS

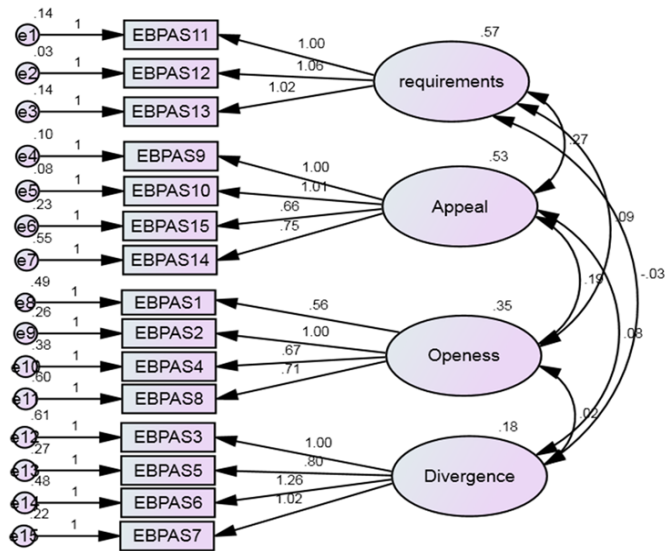


Figure 17 Path diagram of CFA of EBPAS items to subscales

Table 17 Goodness-of-fit indicators for EBPAS items to subscales (n=104)

Model	χ^2	df	χ^2 / df	GFI	RMSEA
Four-factor	129.04	84	1.536	.867	.072
Two-factor	15.01	13	1.162	.961	.040

The model shown in Figure 17 above was not a particularly good fit to the data, $\chi^2(84)=129.04$; $p<.001$, with the factors divergence and appeal appearing to be most problematic. The analysis was run again, excluding these factors. This model was a good fit to the data ($\chi^2(13)=15.01$; $p=.301$), demonstrating that the subscales openess and requirements were valid for use with this population. Table 15 reports the Goodness-of-fit indicators for both models and Figure 18 shows the updated path diagram.

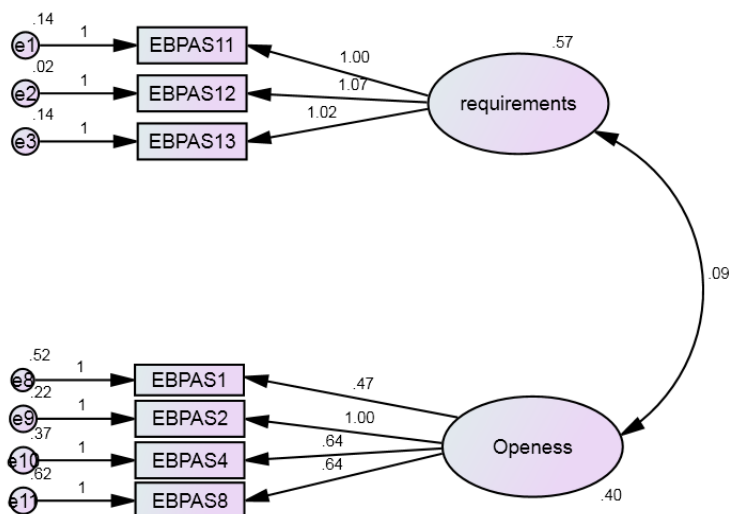


Figure 18 Path diagram of CFA of EBPAS Requirements and Openess subscales

Appendix 8 Qualitative data

1. I feel systemic and family interventions would be helpful in all fields of clinical psychology. I feel that those with complex needs would be better supported and less blamed within family interventions. Family interventions are more solution focussed and can enable a co-ordinated approach. Everyones perspectives will be heard.
2. I like using Family Interventions when this 'makes sense' to the client etc and it sometimes seems to lead to big shifts and therapeutic gains in a short space of time. I also like that it means the problem may be less likely to be located in the individual experiencing psychosis, but viewed more systemically. I have found family work difficult when different individuals turn up each week, or there is a particularly volatile dynamic. Working with a co-therapist is helpful here and I enjoy that aspect too, it allows you to try and view things more easily from the perspectives of others, and also boosts confidence as a trainee for my therapeutic abilities when a more senior therapist can 'observe' me in session.
3. I like the theory behind family interventions and feel that they could be very useful. However, my lack of knowledge about family interventions for psychosis make me hesitant at this moment in time. I am sure if I had training I would be much more confident that I would use it.
4. I believe they would be most helpful in Early Intervention in Psychosis services, especially with younger adolescents and those still living with their family. My current placement is inpatient, so it is difficult to see families. Lots of my clients are also older, and I am not sure whether it is appropriate to do family interventions with the children of clients. I believe that CBT and family interventions can be integrated effectively, for example using CBT techniques to challenge family members negative thoughts about the illness.
5. Have used family involvement to guide development of a relapse signature for client. This was a very helpful experience because it provided a lot of additional information the client was unable to share as a result of a confused memory. The dynamics of the session were fascinating and helped me in formulating the client's difficulties from a broader perspective. For this client (if it was feasible) I could very clearly see that a family intervention would fit his formulation much more than an individualistic approach.
6. I think family interventions for psychosis make sense and if it could increase the well being or quality of life of the service user and their families then it must be worth using.
7. I'd use them if they were indicated in a particular case. For example if there was obvious high EE in that family, or maybe even if the family played a large role in the patient's life. I'd likely combine a family intervention with an individual one, too. I wouldn't necessarily use it if the above didn't apply, and would opt for an individual approach instead.
8. I would use FI if the client had carers/family that they were in contact with and my formulation identified that they were maintaining my clients difficulties in some way. I would be very open to completing further training in FI for Psychosis, but if this was not available I would be more hesitant to deliver it unless there was a manualised version available or good supervision.
9. It would be dependent on what the client wanted. If there was no family, family interventions would be unlikely to be useful. However, I see how useful it could be for some clients as family relations can be a perpetuating factor in people's difficulties.
10. Having being a member of the reflecting team in FT, I think family interventions would be beneficial, particularly considering issues around high EE. I would be reluctant to use FT techniques if I thought it might increase risk.
11. I am interested in the systemic way of working in general so i think these ideas fit with the way I naturally think about disorders. I do not have experience of using family interventions in psychosis, but I think the evidence speaks for itself, and that it makes sense that in a disorder such as psychosis,

the family will be affected. Although i think CBT for psychosis can be helpful (this is where my experience as an assistant lies) i feel that family interventions can be used alongside this. I am aware of the theory of EE within families, and feel that this would be a suitable intervention in helping families with this. I think it is a good way of encouraging communication within families at difficult times.

12. WOULD - where management of the individual's well-being would benefit from a family intervention; where the family would likely experience a family intervention as practically and emotionally useful; where I would be confident of valuable supervision or peer support. WOULD NOT - practical matters - many of my current clients who experience symptoms of psychosis have families who would be unlikely to attend sessions, or who are no longer involved with the client.

13. I would use this therapy if I was trained well. However, often the issues people experience and their family situations are so complex that I do not believe any more than 50% of families would engage with this type of therapy. Therefore, the training would need to cover families who are harder to reach, and ways to adapt this therapy to help with this. I also found the way the research was presented here to be slightly biased, and would be more likely to do further reading in context before considering any training.

14. It is service dependent. As I am in secure services, it would not be possible. If service allowed, it seems a robust intervention if family are prominent part of the individual's life, which is not always the case.

15. I would use as it is more systemic and allows a more family recovery approach. Can remove stigmatisation and blaming on client with psychosis, and increases support and understanding in families. Family interventions are more realistic, ecological, and supportive of a client recovery, as clients often live in their own communities and families and they are best supported in that way. Recovery in isolation is often very difficult, and unlikely! People with psychosis require a best deal in managing their experiences in a systemic way, without the need to rely on medication or individualistic interventions that may not translate to reality. However, some families are very medicalised and do not see the problem or the focus on the family as a priority, so they may not wish to take part in the intervention. Some clients may not have families around or may wish that their families do not know about their problems. Some cultures stigmatise psychosis, as a contaminated disease, or even a punishment from divinity, and communities are often discouraged from mixing with people with psychosis. This increases stigma but also unwellness in clients, since their isolation and rejection increases their symptoms of psychosis. Before an intervention is implemented we need to always check client's background and support networks available, and whether there are any secondary gains around others to keep the client in that sick 'role'.

16. I feel that most psychological difficulties are rarely solely located with one family member and certainly never impact solely on one individual. I think that most psychological difficulties would benefit from family interventions and psychosis is no different. It also seems that the influence expressed emotion has on relapse is significant and could be addressed.

17. I would use FI if the family are quite involved and if there is a sense that the family is stuck or adapting themselves in line with the psychosis I would not use it if I felt that this would put the client at risk in any way, if the family are not so involved or if the client has not yet disclosed the full nature of their psychosis to the family.

18. I would use family interventions where there is a clear rationale (for example, high expressed emotion within the family significantly contributing to maintenance/relapse). Also if there were wider interpersonal difficulties within the family that impacted the individual's ability to cope and/or the family's quality of life, risk of developing/relapsing psychological difficulties. I would not use family interventions if it were not clinically appropriate - if this was an area that was functioning well, if the

individual/family were unwilling to engage in this, or if the individual was not in close contact with their family.

19. My thinking on an individual's difficulties is generally quite systemic. I don't feel problems develop on their own and are often a symptom of wider difficulties therefore I feel a family intervention approach to psychosis is very appropriate. However, I do wonder whether its application to psychosis would be any different to its application to other areas? Sometimes it is useful to have resources specific to a presentation like a tool box but I find specified session by session manualised approach off putting as I feel it simplifies clinical judgement

20. I think family interventions would be useful when the client's delusion or thought patterns relate to the actions and behaviours of their family. i.e. paranoia about fidelity, family colluding with conspiracy. Perhaps the family would benefit from learning about why they have become part of the delusion and how they can continue to live with their family member. I would not use FI when the person was placing all the blame on their family and not taking ownership. I would initially work to think about "who" the client is and where the difficulties are and the extent that the client can expect to change their family.

21. I can only give a limited view as I have no experience with family interventions with clients who have psychosis. However, it depends on the relationship with the family to involve family in treatment for the service user. May be useful if client is displaying negative symptoms.

22. I would aim to use these if they met the client's needs and the client was willing to try them. I wouldn't use them if this was not what the client wanted, and I would not use them as the sole focus of the work without further training

23. I think this is a very helpful approach to use as often individuals with psychosis are living with / in very close contact with family members / carers. Their difficulties associated with psychosis are often exacerbated by the system in which they are in and hence making changes merely at the individual level might not be as effective as interventions that consider the wider system.

24. I think that there is no doubt that family interventions are useful, however it depends very much on the relationships within the family setting. I feel that they can be seen as 'one size fits all', and that family interventions are always positive and useful for everyone. If the service user refuses family intervention, then it can be frustrating for families to not receive any support/therapy (especially if, in the case of Brian for example, the service user is experiencing paranoid thoughts, which are often about the people closest to them, which may include the family members themselves), so I do think family interventions should be made available to families, even without the service user (in more of a mutual support/educative way, due to confidentiality). Also there is some implication to the family situation afterwards; In most individual therapy settings the content of what is said is confidential, so any opinions about family members, which may be maintaining or triggering difficulties can be discussed openly. I think family interventions also need to be supplemented with individual sessions to allow this, especially initially. In addition the implications of involving family members so closely in the service user's recovery I think need to be considered carefully. For service users experiencing psychosis, it can be disempowering to feel that you need your parents (in Brian's example) to help you get better, impacting on self esteem, mood, confidence etc, (Thinking about it from a lifespan perspective this may feel like a backwards step from the independent person he may have been prior to the illness). In terms of more 'low level' family interventions, psychoeducation is often overlooked. Often families know very little about psychosis, and the current information supplied is often very minimal. Even simple details about the treatment, course of illness, support services available, chance of relapse, 'what to do if...' information should be made more readily available. (especially at more early stages in treatment pathways (i.e. GP, Police, Inpatient wards), as this is often the most stressful, uncertain time for families, when no one is available to contact... but I'm aware this is probably off topic!)

25. I think that the most valuable aspect of family interventions with psychosis would be socialising the family to the idea of psychosis so they could understand what might occur during psychotic episodes and what might trigger them. This might go a long way in reducing the unpredictability and fear that sometimes accompanies psychosis and may allow family members to be more empathetic towards the person.

26. I do not have experience in working with clients with psychosis but I am very interested in family based interventions and am currently on a family therapy placement. I think working within a client's system is extremely important so if I did end up working in a service supporting people with psychosis I would definitely consider family based approaches. It makes sense to me to use an intervention that works with the client and their support network, and can imagine it would be a positive step in reducing stigma and providing psycho-education. I also liked the idea that the intervention could involve other members of the care team as this seems a positive way to promote formulation based approaches and make psychological therapies more accessible.

27. I think there would be a real value in this approach; particularly having worked in inpatient settings where family involvement is minimal. I wonder whether it would form more of a secondary intervention, following individual work as I'd imagine that the family dynamics may in some cases exacerbate symptoms and increase anxiety and pressure.

28. I would use it because I feel it is important to consider the individual as part of a wider network, and to assist the family unit to move forwards. This makes sense - if changes are made in individual therapy but the person is returning to the same context, it may make maintaining these changes difficult. Furthermore, it would enable a psychological approach to psychosis to be shared with the entire family, to challenge negative perceptions. The only reason I would be hesitant to use it would be if the service I worked for was resistant to it - having a good evidence base and guidelines may help with this.

29. Useful and important, would like to know more about it. No module on FI during the training, learnt about it through placement, conferences. It would be good to expand the aspect of carers' support and self-care.

30. I think that there are always systemic issues with mental health difficulties that would be beneficial to be addressed. Families have a role in maintaining difficulties and a family intervention may help reduce some of these.

31. From my previous experience of working with Psychosis, I understand the importance of a wider social support network. Family understanding and support increases likelihood of treatment adherence and engagement, whilst also understanding further about the potential origin of the Psychosis. Whilst I don't think it is the only intervention that should be used when working with Psychosis, I certainly feel it is important in supporting those with Psychosis.

32. I think that it would depend on the client. I saw an individual where she would not have consented to family work due to the hostile relationship/abuse within the family, I also don't think the family would have engaged.

33. I know very little about the evidence for the use of family therapy with psychosis so I would have to do some research, I have a very basic understanding of family therapy so I would not be confident trying to use this approach with a complex case at this point in time. However, I would like to be able to use Family therapy because I think it could be helpful for many clients and I like the approach (it 'fits' for me). Given more training then I would definitely offer family therapy to clients I thought it could help. Whether it is suitable for clients with psychosis would entirely depend on the client, their family networks, their relationships, and their preference. I do not think it would replace the need for individual work in many cases but could be used in conjunction with it.

34. I would be willing to use family interventions as having worked with a few people with psychosis I can see how this would be helpful. However it very much depends on the type of service you are in

and if there is scope to offer family sessions - often it is not a personal choice of the psychologist but a decision made by the service as to which treatments are offered.

35. With a few of my clients family are not a part of their lives or involved in their care and for them it would not be feasible to do family intervention. For my clients who do have family involvement it would be very beneficial because their family don't fully understand or appreciate the difficulties the client is going through, even during recovery, so it would be helpful to bridge the gap. It would also be helpful for clients who come from ethnic minority community who have cultural understandings/beliefs about psychosis. If it is the belief about psychosis that causes the client most distress, then I find working with the client about their belief is not helpful because the wider community they come from also have the same belief (e.g. caused by black magic). Therefore it may be helpful to psycho-educate their family on an alternative explanation to psychosis such as stress.

36. I have very little knowledge of psychosis, and some knowledge of family intervention. I'm keen on using family interventions and so this is where my interest would come from rather than an interest in psychosis. The rationale for working with families of those with mental health problems makes a lot of sense to me.

37. I would feel comfortable using FI in psychosis as my understanding of the research is that it is an effective therapy with high service-user satisfaction.

38. I would use family interventions as in my limited experience family dynamics contribute both to the development and the maintenance of psychosis and the client's confidence in their ability to manage their symptoms. I have not used it as services in which I have been employed only offer individual support to this client group.

39. I value the use of a systemic approach. The impact on the wider system for a client with psychosis is important to consider in developing interventions.

40. I think family interventions are useful but can sometimes be more difficult to use in traditional mental health settings where seeing a service user alone seems standard. I have used family interventions in the past where the family has been willing, however sometimes they have not wished to engage.

41. I think it is very important to consider using family interventions when working with clients with psychosis because in my experience I have seen that family members often play a role in helping their relative, however at times their help may actually hinder the progress of the client. When working in inpatient services it is also important to include family members as once the client lives back in the community they will need help and support from their relatives.

42. It is important to include the family to improve their understanding of the difficulties and how to support the client. However, there may be certain parts of the therapy that are inappropriate for certain family members to present, for example, in cases of abuse.

43. Psychosis can have a wide impact upon a family or support system. This can affect relationships with the individual and between other members of a group, as seen in the case study described here. Therefore, it is often helpful to look at potential maintaining patterns within the system and other useful strategies. However, not everyone with psychosis necessarily has a wider network of support or may not be ready to share their experiences with close family or friends. Therefore, timing of this intervention would be important as well as suitability to the presentation.

44. In some ways feels like it detracts attention from individual experiencing psychosis (not person-centred). Also, think experience with the Dad in case example would be common in not wanting to engage. Unsure how to broach the topic with individual if not immediately obvious. Can see benefit of family relationships- people always in context.

45. Stressful life events, which could include family events, are known to contribute to a predisposition towards positive psychotic symptoms, therefore I would think that family functioning

warrants consideration in therapy. - Other psychological factors such as metacognition also require further consideration in therapy. - Overall, I think it would depend on the individual and the factors involved in the vulnerability and maintenance of their difficulties.

46. I would use family interventions for psychosis if I had sufficient training and supervision I would use family interventions for psychosis if the service supported this work I would use family interventions for psychosis if I could attend regular CPD I would not use family interventions for psychosis I was not sufficiently trained or receiving regular supervision for these cases

47. I definitely see the benefits of using family interventions with psychosis, however unfortunately a lot of individuals with psychosis are extremely socially isolated and do not have any family or family that would be willing to involve themselves in this. I think where appropriate, it is important to educate family members on psychosis to help reduce stigma through an increase in empathy and support.

48. I predominantly work in a systemic way and feel that this is a particularly useful intervention. My experience of working in an EI team was that it wasn't set up for family intervention, and there was not an expectation that psychology would work in this way. This was perhaps influenced by supervisors' views and other services may be different