An Investigation of Factors Associated With Health Anxiety in a Non-Clinical Sample

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Portfolio Introduction

This portfolio contains work completed during the Doctorate in Clinical Psychology training course (Psych. D.) from September 2009 to July 2012.

The portfolio consists of one volume comprising three dossiers - academic, clinical and research. Details of the documents in each dossier are shown in the Contents pages overleaf.

The portfolio is representative of the ethos of the University of Surrey Clinical Psychology training programme, with value placed on diversity and reflective practice. Clinical work covers client groups across the lifespan, with a range of presenting problems, and the use of multiple theoretical models. Research work entails the use of both qualitative and quantitative methodologies.

Within each dossier sub-section, work is presented in chronological order, reflecting the development of knowledge and skills during the course of training.

All clinical material presented had been prepared with the informed, written consent of the individuals concerned. It has been suitably anonymised, by changing or removing identifying details as far as possible, in order to maintain confidentiality and anonymity.

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Acknowledgements

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Finally, I am very grateful for the enduring belief of my family and friends throughout the course, and for their ongoing and heartening encouragement over the last three years.
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An Investigation of Factors Associated with Health Anxiety in a Non-Clinical Sample
ACADEMIC DOSSIER
Literature Review

Mindfulness-based interventions for psychosis

A review of the literature

Year One

January 2010
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Literature Review
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**Literature Review**
Abstract

The use of mindfulness-based interventions for clinical problems such as depression, anxiety and pain has become more established over the last two decades. More recently researchers have started to explore this approach as a way of reducing distress caused by psychotic experiences. This review looked at what the theoretical and clinical findings are to date in this field.

Results from quantitative research were found to be promising but limited in generalisability. Further, controlled studies with bigger samples are required. Qualitative findings suggest that mindfulness-based interventions may work via processes such as exposure, acceptance and cognitive or meta-cognitive change.

The review concludes that no robust clinical recommendations can be made until further research has been conducted.
Declaration of author position

This review has been conducted and written to explore an area of theoretical understanding and intervention research that is of clinical interest to the service I currently work in - a Continuing Needs Service. As a first year trainee clinical psychologist with limited clinical experience, I found that I was approaching both the main topics in this review - psychosis and mindfulness - as a relative novice. It seems to me that there are advantages and disadvantages to this position.

One advantage may be that with little experience in these fields, I may have been able to approach the literature with fewer pre-conceived ideas of what may be going on and of how interventions are taking effect. It is possible I may also have been more able to review the evidence objectively. The main disadvantage appeared to be that I was less able than more experienced clinicians to relate what I was reading about to the real world - to real-life clients and to services I understood from the inside.

As the review progressed, it became clear that this topic area is very much in its infancy in terms of empirical studies and practice. Some of what I have learned and will report on is consequently at the theoretical, process-based level of understanding (including some qualitative investigation). It may therefore be that my limited clinical experience is less of a disadvantage in this research area than others, and indeed that the curiosity stemming from my position of consciously 'not-knowing' may have been particularly helpful.
Introduction

Background

There have been a number of key developments in mental health practitioner approaches to understanding and treating psychosis in the last two decades. We have begun to move away from the traditional, classification-led medical models (Bentall, 2003). Chadwick describes paradigm shifts from a syndrome model to a symptom model, and more recently to a person-centred model (Chadwick et al., 1996; Chadwick, 2006). These moves have entailed a change in the target of psychological interventions for psychosis – where once it was symptoms, it is now felt that a more appropriate target is distress. In a more person-centred, recovery-based model, if a person is not distressed by or at significant risk from a symptom then there is no rationale for intervention.

A now well-established approach to working with psychosis is to use cognitive behavioural therapy (CBT) (e.g. Fowler et al., 1995) or cognitive therapy (CT) (e.g. Morrison et al., 2004). The evidence for the effectiveness of these approaches is robust, and as a result the latest guidelines for schizophrenia from the National Institute for Health and Clinical Excellence (NICE, 2009a), recommend that all people with a diagnosis of schizophrenia are offered CBT.

Significant research into CT and CBT for psychosis began after these approaches had been established as effective for other mental health problems such as depression, anxiety, OCD and pain (e.g. Hawton et al., 1989). A recent development in some of these areas has been the introduction of mindfulness-based interventions, delivered either on their own or linked with a more established approach – as in the case of mindfulness-based cognitive therapy (MBCT) for depression (Segal et al., 2002). The success of this development as a treatment for recurrent depression has led to its inclusion in the latest NICE guidelines for depression (NICE, 2009b).
Definition of mindfulness:

As a relatively new concept to clinical psychology, it is important to clarify the definition of mindfulness for the purposes of this review. Mindfulness can be defined as:

'\textit{the awareness that emerges through paying attention, on purpose, in the present moment and non-judgementally, to the unfolding of experience moment to moment.}'

(Kabat-Zinn, 1994, p.4)

Mindfulness for clinical use was originally developed from Eastern meditation practices, such as those found in Buddhist traditions. Mindfulness is a practice of non-judgemental acceptance. Phenomena that enter an individual's awareness during mindfulness practice (sensations, thoughts, emotions, perceptions) are carefully observed but not engaged with and not evaluated as true or false, good or bad (Marlatt & Kristeller, 1999). These phenomena are noted but then let go, without judgement or struggle (Chadwick et al., 2005).

The most widely used mindfulness-based interventions to date are MBCT, noted earlier, and its forerunner - Mindfulness Based Stress Reduction (MBSR; Kabat-Zinn, 1990). Mindfulness is also considered to be an important component of Dialectical Behavior Therapy (DBT), an approach used in the treatment of borderline personality disorder (Linehan, 1993). There are also considered to be significant similarities between mindfulness-based approaches and Acceptance and Commitment Therapy (Hayes et al., 1999).

Evidence for the effectiveness of mindfulness-based interventions for a wide range of difficulties is growing. A substantial meta-analytical review by Baer (2003) looked at empirical research on the utility of mindfulness-based interventions for several problems and disorders. The review looked at 21 studies which examined the effects of mindfulness-based interventions for problems including chronic pain, depression, anxiety and eating disorders. It
concluded that mindfulness-based interventions appear to be useful in the treatment of these problems, but that there were some methodological flaws in the current evidence base which needed to be addressed. No review has yet been conducted to investigate the utility of mindfulness-based interventions in the treatment of distressing psychotic experiences, perhaps partly because theoretical understanding and research in this area is only in its early stages.

**Rationale for this review**

The primary rationale for this review comes from the NHS mental health service in which the author works. The psychologists working in the Continuing Needs Services in the author's local Trust are considering whether to introduce some mindfulness-based intervention options into their services. This might include mindfulness as part of individual work and/or setting up a mindfulness group for users of the service with distressing psychosis.

To be referred to the Continuing Needs Service, clients will have been experiencing psychotic symptoms for at least two years and are considered to need a level of support that is higher than that available from Community Mental Health Teams. Each Continuing Needs Service in the Trust comprises two community teams - a Rehabilitation & Recovery Team and an Assertive Outreach Team.

The psychologists in the service will require practical information that will be useful in the consideration and planning of clinical service delivery. If the evidence suggests that mindfulness-based interventions are useful in helping clients with distressing psychosis, then staff will need to know how to deliver the intervention, whether any adaptations need to be made, whether any particular precautions need to be put in place.

Given that this area of research is very much in its infancy, I think it will also be important to give proper consideration to the theoretical underpinnings of the area. There is very recent work reflecting this interest, including a number of qualitative studies. These allow consideration of the processes and
mechanisms involved in using mindfulness-based techniques for psychotic symptoms. I think it may also be important to look at what theory suggests might be going on so we can better understand what - if any - risks this practice might pose for people with psychosis.

The main objective of this review, then, is to consider the theory, evidence and clinical issues pertaining to the use of mindfulness-based interventions for distress caused by psychotic symptoms or experiences.

The following questions will be addressed in this review:

1) Does the current evidence base suggest mindfulness-based interventions can help to alleviate distress caused by psychotic experiences?

2) If so, how might the interventions best be delivered to clients?

3) What does current theoretical work in this area suggest might be the processes by which mindfulness-based interventions may take effect?

Method

Search Strategy

Searches were initially undertaken on 3 electronic databases - Medline, PsycINFO and Google Scholar. The resulting number of suitable papers was small, but searches on further databases yielded no new results. The majority of papers used for this review were found by following up references in those papers found through the databases, and by using the ‘citation’ database function (where available) which presents all the papers in which a particular paper is cited. The NICE website was also used to find the latest guidelines for schizophrenia and depression, and to search for references to mindfulness therein.
**Search Terms**

A broad search of the field was conducted to identify the appropriate terms needed to find the initial papers that were related to the objectives of the review. Searches were conducted using the terms (psychosis or psychotic or voices or paranoi* or delusions or hallucinations) and (mindful*). No limits were set on date of publication as the field of available papers was already small.

**Literature Inclusion/Exclusion Criteria**

The inclusion/exclusion criteria for this review are minimal due to the small amount of literature published in the area and the relatively new nature of the field. To exclude any material which was not empirical and quantitative, for example (as one might in a more established field) would have left out some important work. The selection criteria are listed below.

Material included must:

1. Be published in English.

2. Involve adult participants (i.e. aged 18 years or above).

3. Pertain to an intervention based on a mindfulness-based technique (as defined earlier), as opposed to other kinds of psychological intervention (e.g. purely behavioural or cognitive-behavioural therapy).
Results

Quantitative research

The first significant piece of work to look at a 'pure' mindfulness-based intervention (i.e. not at an intervention in which mindfulness is only a part) was a study by Paul Chadwick and colleagues looking at 'Mindfulness groups for people with psychosis' (Chadwick et al., 2005). All other quantitative studies looking at pure mindfulness-based interventions for psychosis have been published after 2005, so the Chadwick study seems to have been the forerunner in this field. I will consider this study in more detail later in the review.

Prior to the Chadwick study, and cited by its authors as influential in their decision to conduct their research, there were two important quantitative studies looking at the use of Acceptance and Commitment Therapy (ACT) with people experiencing psychotic symptoms. The first, by Bach & Hayes (2002), looks at the impact of a brief version of ACT which they describe as a treatment which 'teaches patients to accept unavoidable private events; to identify and focus on actions directed toward valued goals; and to defuse from odd cognition, just noticing thoughts rather than treating them as either true or false.' (p.1129, my italics). The highlighted parts of this quotation reveal the important similarities between the 'acceptance' part of the ACT approach and pure mindfulness-based interventions, so it is clear that the findings of work using this approach are relevant to this review's questions.

The Bach & Hayes (2002) study was a randomised controlled trial (RCT) with a sample of 80 participants. Participants were inpatients who were experiencing auditory hallucinations and/or delusions and all had been given a psychosis-related diagnosis (schizophrenia, schizo-affective disorder, mood disorder with psychotic features). They were randomly assigned to treatment as usual (TAU) or to 4 sessions of ACT plus TAU. Their results revealed that the ACT group showed significantly higher symptom reporting (which could suggest more

Literature Review
insight following the intervention, though this cannot be confirmed using the available data) and lower symptom believability. The ACT group's rate of re-hospitalisation was half that of the TAU group over a 4-month follow up period - an important clinical finding.

The second ACT study of note (Gaudiano & Herbert, 2006) was designed to extend the work of Bach & Hayes. It had the same structure (RCT) and participant characteristics, but a smaller sample of 40. Again, results suggested benefits for the ACT group. This group were found to have significantly lower distress related to hallucinations, and more participants in this group had reached clinically significant improvement at discharge. Their re-hospitalisation rates were also lower, though did not reach statistical significance in this study (which may have in part been due to the smaller sample).

So these two studies started to suggest that there were positive benefits for people with psychosis from interventions including a significant mindfulness-based element. Chadwick and colleagues took the next step and investigated an intervention purely based around mindfulness (Chadwick et al., 2005). Their sample was 10 people, all of whom met DSM IV criteria (APA, 1994) for either paranoid schizophrenia or schizo-affective disorder and were said to have had unremitting, distressing psychotic experiences of at least two years duration.

The intervention was a mindfulness group, the structure and content of which was adapted from those used in mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT). Chadwick and colleagues established:

‘a clear, narrow aim of seeking to help people establish a mindful relationship with unpleasant voices, images and paranoid thoughts, rather than seeking to promote mindfulness in everyday life’ (p.353).
These adaptations were made specifically to suit the client group so they may have important clinical implications for any service considering this type of work. They are summarised in the Appendix to this review.

The primary outcome measure used was the Clinical Outcomes in Routine Evaluation (CORE; CORE Handbook 1988), a well-validated and reliable measure. They also used a relatively new instrument, a mindfulness questionnaire which aims to measure how mindfully people are able to respond to distressing experience. Reliability and validity data were later published on a version of this measure (Chadwick, 2008). The study found a significant pre-post drop in CORE scores and an improvement in mindfulness skills. A therapeutic process measure also suggested the subjective importance of mindfulness to the group process (Yalom, 1995).

These results were promising. The authors acknowledged the small sample and repeated measures design meant that further work was needed to confirm and extend these findings. Chadwick and colleagues have since published the results of some appropriately designed further work (Chadwick et al., 2009).

The 2009 study is described as a 'replication and randomised feasibility trial'. 35 potential participants were assessed for suitability. 22 were selected, and were randomised into one of two groups, an intervention group or a waiting list group. The participants' diagnoses and symptoms were comparable to those in the 2005 study.

The content and adaptations of the intervention group were also the same, but the overall structure was altered. This time it was five weekly sessions (plus home practice), followed by five more weeks of home practice. At 10 weeks the waiting list group then started the same intervention for the proceeding 10 weeks.

Outcomes measured were very similar to the 2005 study. Results in all measures showed differences in the expected direction between intervention
and waiting list groups but none of these were significant. However, the authors acknowledge that the study was under-powered, so this result is not definitive. A feasibility calculation indicated that sample sizes needed to allow significant findings were 46 for the CORE and 22 for the Southampton Mindfulness Questionnaire (Chadwick et al., 2008). These data should be used to inform future studies. Secondary analyses were conducted on all the suitable participants from both groups together (15 people), and the results were comparable to the 2005 study. They showed a significant improvement in clinical functioning and in mindfulness of distressing thoughts and images (though not voices).

The final, related study involving Chadwick and colleagues is a report of two individual case studies (Taylor et al., 2009). It looks at the effects of mindfulness on cognition and affect, which is interesting from a theoretical point of view - to establish whether these two variables co-vary. Participant characteristics and content of the mindfulness intervention are in line with the previous studies except that the intervention is delivered over 12 weekly sessions. It is unclear from the paper whether delivery was in an individual or a joint/group format. The design of the case studies seems sound, and includes the following methodological strengths: a substantial baseline period used - three weeks - during which all measures were taken twice weekly to establish that they were relatively stable before the intervention began; and a follow-up measurement point of four/six weeks after the intervention ended.

Measures of cognition and affect were taken twice weekly during baseline and intervention, using visual analogue scales (0-11) asking “How much do you believe what the voices say?” and “How distressing are your voices?”. These measures were untested for reliability and validity. Results plotted on graphs showed that cognition and affect do vary together, and after some variability within each participant the scores do lower considerably by the end of the study. These measurements could not be tested for clinical significance however, so it is not clear how clinically important these changes are. The study would have been improved by utilising measures with sound
psychometric properties which would have allowed these calculations. Subjectively though, participants described being less overwhelmed by their experiences and more confident in their ability to live with the voices. Mindfulness of voices (tested using a reliable, valid instrument) was shown to have increased, though for one case study this increase was within 2 standard deviations of the mean for the clinical population.

This study's findings are not robust from a quantitative research perspective, but may begin to inform a better understanding of what processes could be taking place during mindfulness practice for distressing psychosis.

**Methodological issues in the quantitative studies**

The quantitative studies in this area have a range of design quality. The ACT studies are RCTs, which suggests good internal validity. The first Chadwick study (2005) was uncontrolled but the follow-up (2009) did add a control group.

Sample size was good in the first ACT study, but too low in the other studies. Both Chadwick studies were under-powered – this needs to be remedied in future work.

One of the key challenges when conducting research with a client group who may be experiencing significant difficulties during study participation is dealing with the problem of drop-out. In the second Chadwick study only 15 participants' data were included in the final analyses conducted, which represents an attrition rate of 32%. This risk needs to be taken into greater account when planning such research, and a substantially greater number of participants needs to be recruited than the figure that will ensure a study is suitably powered.

Measures used in the studies are all self-report, which means demand characteristics cannot be ruled out. Future research could be improved by
including some less subjective measures (e.g. observations, clinician reports) which would allow triangulation of results.

Therapist bias and effect also needs to be addressed in future. Current studies mostly use just one therapist/facilitator, but two or more should become standard. Future studies also need to confirm whether results are replicable using therapists with less expertise than those used here, since this will establish how feasible it is to deliver effective services in local teams and wards.

**Generalisability**

How generalisable are the findings to people in the wider clinical population who experience distressing psychosis? Table 1 summarises the demographic data and clinical diagnoses of the study samples.

<table>
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<th>Study</th>
<th>N</th>
<th>% Male</th>
<th>Mean Age (SD)</th>
<th>Ethnicity</th>
<th>Diagnoses/Symptoms</th>
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<tr>
<td>Bach &amp; Hayes, 2002</td>
<td>80</td>
<td>64%</td>
<td>39.4 (NR)</td>
<td>Predominantly Caucasian (75%)</td>
<td>Psychotic disorder (via DSM IV) /Hallucinations and delusions</td>
</tr>
<tr>
<td>Gaudiano &amp; Herbert, 2006</td>
<td>40</td>
<td>64%</td>
<td>40 (10)</td>
<td>Predominantly African-American (88%)</td>
<td>Psychotic disorder (via DSM IV) /Hallucinations and delusions</td>
</tr>
<tr>
<td>Chadwick et al., 2005</td>
<td>10</td>
<td>60%</td>
<td>33.1 (8.9)</td>
<td>NR</td>
<td>Psychotic disorder (via DSM IV) /Hallucinations and paranoid beliefs</td>
</tr>
<tr>
<td>Taylor et al., 2009</td>
<td>2</td>
<td>100%</td>
<td>57 (6)</td>
<td>NR</td>
<td>Psychotic disorder (via DSM IV) /Auditory hallucinations</td>
</tr>
<tr>
<td>Chadwick et al., 2009</td>
<td>22</td>
<td>NR</td>
<td>41.6 (8.1)</td>
<td>NR</td>
<td>Psychotic disorder (via DSM IV) /Hallucinations and paranoid beliefs</td>
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Table 1: Demographic data and clinical diagnoses of quantitative study samples  [NR=not reported]
All the main studies had a range of diagnoses and symptoms representative of those found in clinical populations. The majority are two-thirds male, which again is not an unreasonable reflection of the clinical population. Age ranges are mostly between 30 and 45 however, which may not allow generalisability to older clients. This needs to be addressed in future research, since many of the people living with long term, distressing psychosis (who might be seen in services such as the Continuing Needs Service) are over 45. It will be important to establish whether mindfulness-based interventions are acceptable and helpful to these clients. Acceptability and effectiveness also needs to be established for clients with a range of ethnic and cultural backgrounds. There is a limited range of backgrounds represented in the ACT studies and ethnicity is not reported at all by the other studies. It will be very important to address this in future studies - to include and explicitly report data from participants from a range of backgrounds.

'Cautionary' case studies from the literature

Mention needs to be made of two papers related to mindfulness and psychosis which report individual case studies. These are referred to as cautionary by Chadwick et al. (2009), which I would dispute in one case.

My dispute regards a paper written by Deatherage in 1975 (in a place called Lethbridge, which the Chadwick paper mistakenly references as the co-author - leading one to wonder if it was looked at closely enough). This paper is a report of five case studies using meditative practice to enhance therapy. Chadwick et al. claim it reports negative consequences of meditation in those currently experiencing psychotic symptoms, but the author in fact simply advises that the type of meditative intervention he discusses may not be effective unless the client is motivated and capable of rational engagement - which he does not think will be the case for someone experiencing hallucinations and delusions. Of course, his cautions turn out to be unnecessary for the mindfulness-based interventions used in the majority of studies reviewed here, in which clients were able to engage with the therapy. Generally I believe his paper is positive about the use of mindfulness techniques for therapeutic gains, and he
discusses effects that are observed in later literature - increases in awareness, calmness, insight and the ability to observe without engagement.

A paper by Yorston (2001) is more cautionary about the use of mindfulness and cites a (single) case of mania thought to be induced by a meditative retreat. It also reviews other papers, each reporting two or three cases where psychotic episodes are thought to have been precipitated by meditation (Chan-Ob & Boonyanaruthee, 1999; Garcia-Trujillo et al., 1992; Walsh & Roche, 1979). However, in the majority of cases it appears that the type of meditation being practiced is not the mindfulness-based type under consideration in this review, but a much more intense or 'transcendental' meditation which is acknowledged by clinicians in the field to be inappropriate for working with people experiencing psychosis.

Theoretical considerations and qualitative findings

There have been a number of interesting qualitative studies conducted, looking at the processes and the subjective experience of mindfulness-based interventions. As one author (York, 2007) points out, the experiential and subjective nature of mindfulness lends itself well to qualitative research design. Since these studies were intended to add to the theory of how mindfulness may help people cope with distressing psychosis, I will use my discussion of these studies to look at some over-arching theoretical themes.

The theoretical thinking about how mindfulness-based interventions might help alleviate distress caused by psychotic experiences starts with the idea that it is not actually the experiences that cause the problem, but the distress they lead to. Cognitive research suggests that this distress is associated with how people relate to their psychotic experiences (Freeman & Garety, 1999; Morrison & Wells, 2003).

Baer's excellent review of mindfulness-based interventions (2003) covers conceptual as well as empirical work. She highlights a number of mechanisms
that are thought to be involved in the mindfulness process. These are: exposure, acceptance, cognitive change, self-management, and relaxation.

These themes are very much echoed in a good qualitative study by York (2007). Semi-structured interviews were conducted with eight people who had attended at least two mindfulness groups while staying on an acute inpatient unit. Participants had a range of diagnoses including schizophrenia, bipolar disorder and depression. The content of the intervention was very similar to the original Chadwick (2005) study. Thematic analysis carried out on the transcripts led to the identification of several key themes. These include all five of those mentioned by Baer, plus others including awareness, concentration and use of mindfulness post-discharge.

In another qualitative study, by Abba et al. (2008), grounded theory analysis was conducted on 16 interviews with people who had attended at least four sessions of a group mindfulness-based intervention for distressing psychosis. The theory inducted has a core variable described as 'experiencing how to relate differently to psychosis', which is linked to three 'sub-core' variables which are said to describe the process involved – as shown in Figure 1.

![Figure 1: Core and sub-variables inducted through grounded analysis of interviews about mindfulness groups for distressing psychosis (from Abba et al., 2008)](image)

Clearly there are themes that keep re-appearing when researchers look at how mindfulness-based strategies might be working. I will look more closely at those I see as the key ones below, illustrated by quotes from participants of the groups.

**Literature Review**
Exposure

'experiencing a bit of it and then coming back to the breathing, and then a little more... then coming back to the breathing'  
(York, 2007, p.605)

There are suggestions that sustained, non-judgmental observation of difficult experiences (thoughts, voices, images), without trying to avoid or escape them, can lead to a kind of desensitisation - much like graded exposure tasks can in CBT.

Acceptance and allowing – not engaging

'It's like you have to unlearn your response...letting go of voices and the meaning...not worrying about what they're saying'  

'not being tied to fighting with them and struggling with them' (Abba et al., 2008, p.82)

This theme links with theory about it being a person's reaction to an experience that causes the distress. It seems that mindfulness may be helping people 'unlearn' this distressing learned response and releasing them from the reactive cycle.

Awareness and cognitive change

'stepping back from your thoughts and becoming more aware of them' (Abba et al., 2008, p.81)

'seeing feelings as events rather than completely identifying with them... I'm having feelings of anxiety rather than I AM anxious'  
(York, 2007, p.605)

It seems that mindfulness may start to allow people to see their psychotic experiences as experiences, rather than as fact or reality or as something they identify with their 'self'.

Literature Review
This theory seems to be closely related to the concept of meta-cognitive insight (Teasdale et al., 2002). Participants may be starting to differentiate the psychotic experience from their reaction to it, and realise that if they can change this reaction they may experience less distress. Chadwick et al. (2009) also point out that mindfulness may allow the disproving of inaccurate meta-cognitive beliefs, such as - if a person does not fight and struggle against their voices, they might be overwhelmed by them. The distanced, non-engaging practice of mindfulness may allow this kind of false belief to be realised as such.

Feedback from participants in both these qualitative studies was reported as positive, and both studies note that none of the participants indicated the group had been experienced as harmful. The risk of positive reporting bias cannot be ruled out here however, especially since the interviewers in both studies were also involved in clinical work with the participants.

Conclusions

On balance, it appears that the current evidence regarding mindfulness-based interventions for psychosis is not yet substantial enough to allow a conclusive decision about their effectiveness to be made. The results are promising, but limited – the quality of studies reported thus far is mixed. There is a need for further studies to be conducted, with control/waiting list groups and with sufficient sample sizes to allow significant results to be detected and any risk factors to be identified. Samples also need to include a broader range of ages and of ethnic and cultural backgrounds to reflect the diversity of people with psychosis who are attending services and may want the choice of a mindfulness-based treatment option.

Recommendations for clinical practice cannot be established until more work has been done, but this needs to be designed carefully to address issues of clinical importance. There is no substantial research as yet into the use of

Literature Review
mindfulness-based interventions for psychosis on an individual level, for instance, which would be valuable. There are, however, early indications of useful adaptations of the intervention for working with people experiencing psychotic symptoms in Chadwick's work, which could be confirmed with further studies.

Qualitative work in the field is allowing the development of theory about the processes at work in mindfully responding to psychotic experiences. It appears that despite the non-striving, non-directive nature of the approach it is effecting real cognitive changes. This seems a paradoxical finding on the surface but can be better understood in the light of meta-cognitive theory.

It seems to me that the rise of interest in mindfulness-based interventions reflects a positive direction in mental health services. It suggests a desire to increase the therapeutic options available to people, and a recognition of the importance of the subjective experience in mental health problems. Many people with psychosis continue to experience distressing thoughts, images and voices even while taking medication (Pankey & Hayes, 2003). This can of course significantly affect a person's quality of life. Research into the usefulness and feasibility of introducing mindfulness-based interventions acknowledges that we need to do more to address this problem, and to empower users of our services to help themselves.
References


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APPENDIX

List of adaptations made for the group mindfulness intervention used in the Chadwick et al study, 2005 (taken from p.353):

1. Only mindfulness of breath to be taught.

2. Mindfulness of breath practice sessions were run in two, shorter (10 minute) sessions.

3. Mindfulness taught as 'choiceless attention' rather than concentrated meditation (because states of deep absorption can be linked to the onset of hallucinations).

4. All mindfulness instruction was 'guided, with instructions and gentle comments offered every couple of minutes'. This was to avoid extended periods of silence when participants might become lost in reacting to psychotic experiences.

5. Homework was encouraged but not required. An audiotape was provided and 10 minute sessions were suggested for those who wanted to do them.

6. The overall structure was shortened to 6 sessions of 90 minutes, which included a 15 minute coffee/cigarette break.

7. Whilst the main point of the group was teaching mindfulness, therapists recognised the importance of acknowledging the therapeutic process and relationships in the groups.

8. Groups had a maximum of 6 participants.
Clinical psychologists are expected to take a clinical leadership role in mental health teams. What themes, approaches and evidence might inform our understanding of a clinical leadership position and its usefulness to others?

Year Two

January 2011
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Introduction

Clinical leadership roles are currently being performed by practicing psychologists throughout the National Health Service (NHS). However, many members of the profession feel their involvement in this field will need to increase significantly in the coming years. The topic of clinical leadership by clinical psychologists is currently high on the agenda whenever the future direction and development of our profession is discussed, and as such merits careful consideration. As a trainee I am interested in learning more about my profession. I am beginning to appreciate that the role of clinical leadership is an increasingly important part of how our profession is situated in the wider health service context. However, clinical leadership still seems a mysterious concept to me at times, so I chose to do this essay to deepen my understanding of the value of this position.

I will begin the essay by looking at some of the definitions of clinical leadership which are available, which include some of the skills and competencies it may entail. For the majority of the essay, I will focus explicitly on the potential usefulness of the clinical leadership position to other members of the system of which the leader is part - the staff team, the wider service/organisation, the people who use the service and their carers - since this seems to me to be the best way to understand the value of the role. I will finish the essay with my reflections and discussion, including a consideration of the possible impact of a move towards increasing leadership roles in clinical psychology.

There are many professions which might be involved with services at a clinical leadership level. These might include doctors, social workers, nurses and allied health professionals such as psychotherapists and occupational therapists. For the purposes of this essay, however, I will concentrate on clinical leadership from a clinical psychology perspective - although I may at times draw on findings from other professions to inform my understanding.
The essay title makes reference to mental health teams. I shall take this description to refer to any team of professionals working together in a mental health setting - community mental health teams, crisis resolution teams, inpatient wards, out-patient services, assertive outreach teams etc.

**Defining clinical leadership**

There appears to be no single agreed definition of clinical leadership, neither across the NHS nor within individual professions. One distinction I think may be useful, however, is that between clinical leadership and management. Swanick and McKimm (2011) represent the relationship between these two concepts diagrammatically as two circles with a small proportion of overlap, which fits with my understanding.

The vast number of definitions of clinical leadership available in the literature can be quite overwhelming. Moreover, Cook and Leathard (2004) acknowledge that much of the literature seems to be unable to characterise what effective clinical leadership looks like. Their paper identified the following five attributes which it suggests characterise effective clinical leadership: creativity, highlighting, influencing, respecting and supporting. These attributes strike me as having a primarily interpersonal slant, which is perhaps what one might expect to see. It is also a set of skills one would hope to find in a clinical psychologist at any level of their profession, including that of a trainee, so this is encouraging.

The NHS Institute for Innovation and Improvement (2010) put forward a proposed leadership competency framework for clinical professions. The five main areas they cite as important are: demonstrating personal qualities, working with others, managing services, improving service and setting direction. Some of these domains are more strategic than Cook and Leathard's and as such are harder for me as a trainee to relate directly to my current experience. However, they all seem like appropriate areas of competency for a clinical leadership position to entail.

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It seems that despite being numerous, the definitions and descriptions available certainly cannot provide me with meaningful enough information on their own, so I will move on to consider more specific examples of how a clinical leadership position might have practical value for others.

The value of clinical leadership to people who use services

Effective clinical leadership is widely thought to have an impact on people who are involved with teams and services (Cook & Leathard, 2004). This includes users of the service such as clients and patients, and their carers and families. For example, Ingle (2008) related clinical leadership on a mental health inpatient ward to how much clinical time staff spent with patients and the timing of patient discharges (which would impact both patients and their carers). Shipton et al. (2008) found that effective leadership in a clinical environment was associated with lower patient complaints.

The Knowledge and Skills Framework (DoH, 2004) sets out that clinical psychologists are expected to use their leadership skills to provide quality care for recipients of services. In the section that follows I have selected three areas to discuss in which I believe the clinical leadership position has an important role to play for people who use services.

Evidence-based practice (EBP)

Spring (2007) defines EBP as "a process of clinical decision-making that integrates research evidence, clinical expertise, and patient preferences and characteristics" (p. 611). This definition appeals to me because it reflects my understanding and clinical experience of using this approach. Basing clinical decisions on sound evidence - drawn from both the macro level (e.g. research studies) and the micro level (tracking progress and outcomes in individual client work) - should provide the best care available for clients.
From a leadership position, clinical psychologists can model this approach and encourage others in their team to follow, which should have a positive impact on users of the service. My current supervisor, for instance, takes an active role in running a monthly journal club within our service, which allows team members to learn about recent research relevant to our client group. She also reports outcome measures related to client work in team meetings - a practice which I have now taken on. This highlights the importance of evidence in client work. In our team the outcomes used include both structured clinical instruments and evaluation forms to enable client feedback. An important further step for the future might be to discuss with the team whether others would like to make use of the evaluation forms, and perhaps to engage them in finding further ways of evaluating the service from clients and carers' perspectives - as this is an area which needs attention in our service.

**The recovery model approach**

The recovery model is not a new one, but is more recently at the forefront of policies and guidelines in mental health services - particularly those designed for people with longer-term or more complex difficulties. A position paper produced by the Care Services Improvement Partnership (CSIP) in 2007 suggests that a recovery approach "favours hope and creativity over disillusionment and defeat" (p. vi). The recovery movement appeals to the values of many clinical psychologists, including my own. From positions of leadership within clinical settings, clinical psychologists are well placed to promote this approach and encourage colleagues to use it to inform their practice. This in turn has the potential to improve the experiences and lives of those who use the service, their families and carers.

One of the important clinical themes in the recovery approach is the use of creative risk-taking as an alternative to 'overcautious' risk assessment, which is a good example of where clinical leadership has an important role to play. Understandably, carers of those who use the service and members of the staff team can sometimes feel very apprehensive about the prospect of positive risk-taking. Good clinical leadership at this point can help contain and manage
anxieties around these kinds of risks, and make clear the rationale and evidence for using them.

In the Trust in which I work, recovery-based initiatives are a high priority. The Trust has recently begun running a 'Recovery College' at which users of the service and carers can take courses to educate and assist them to move forward in a recovery-orientated direction. I recently attended a Continuing Professional Development event introducing the concepts and practical implications of adopting this approach. It was run by a local consultant clinical psychologist, who it became clear was one of the champions of the movement in our Trust. Her ability to inspire and motivate the clinicians at the meeting, including me, was clear. I understand that she is also part of a training scheme the Trust has committed to, which aims to send all employees on a four-day training course on recovery. On hearing about this scheme, I reflected on difficulties that might arise in relation to it. I will discuss these in a later section of this essay relating to managing change.

**Cultural level shifts**

In addition to the specific clinical approaches discussed above, I think clinical psychologists in clinical leadership positions can also play a valuable role at a wider level. Problems relating to stigma and social exclusion, for instance, can have a significant impact on the lives of people who use mental health services. The Social Exclusion Unit Report (ODPM, 2004) highlighted these difficulties, and looked at examples of communities in which changes in inclusion levels had been brought about. Effective local leadership was cited as an important factor. In a clinical leadership role (of community teams, for example), there is scope to be part of this shift, and thereby be part of improving the lives of service users and their carers. This might be by engaging with local inclusion initiatives, for example, and by raising awareness about opportunities for service users in team meetings, thereby enabling staff to support people to get involved.
My experience at placements thus far has been that, although it is rarely referred to explicitly, the issue of social inclusion does seem to be present in the thinking and practice of many team members. Following discussion with a supervisor at my current place of work, a fellow trainee and I are planning to make links with local service user and carer groups to discuss these topics with them, and consider ways to address exclusion and stigma in the local area.

The protective value of well-being and the drivers (both for individuals and the economy) of working towards it has been acknowledged by many (e.g. DoH, 2009; Howard, 2008). Community-level work around positive psychology and enhancing well-being is another area where clinical leaders can play a valuable role in the process of a cultural shift.

The value of clinical leadership to those who deliver services

In the following section, I have selected four areas to focus on in which clinical psychologists in a clinical leadership position may be useful to individuals and teams delivering services. It is worth noting that where leadership successfully provides help to staff in these ways, this will generally also have an (indirect) positive impact on users of the service.

Sharing psychological knowledge and skills

A primary way in which a clinical psychologist in a leadership position can be useful to his or her colleagues is as a resource of psychological knowledge and skills. A document produced by the Division of Clinical Psychology (DCP) entitled ‘Clinical Psychology Leadership Development Framework’ (BPS, 2010) highlights many of the ways in which an effective clinical leader can benefit their colleagues and service in the sharing of expertise. Once in a leadership position, a psychologist will tend to have a smaller caseload and therefore be freed up to provide training, supervision and consultation to other members of the team, particularly to support them with more complex cases. I recently assisted my supervisor in thinking through with an occupational therapist (OT)
in the ‘Outreach’ part of our team why she might be struggling to engage a particular client. The OT had received cognitive-behavioural therapy training and was proficient in its delivery, but had not been able to make progress with one of her clients. My supervisor and I were able to bring in other models of understanding his difficulties - most usefully, attachment theory - which allowed a deeper understanding of this client's difficulties. This enabled us to produce a formulation and intervention plan with the OT which encompassed more of the factors involved, which she reported finding very useful.

Fostering a more reflective, self-aware approach in teams is another key way in which psychologists are able to benefit their colleagues. I have noted supervisors in past placements asking questions in team meetings which allow other staff to reflect on their own role in a relationship with a client, and help them to step back and look at their interactions more objectively.

The skills which clinical psychologists are trained in can also be helpful to the team when addressing ethical dilemmas or seemingly intractable situations. In a leadership position, a psychologist can use their skills in guided problem-solving to help teams come to decisions about which course of action they might take.

**Understanding of systems and dynamics**

Effective team working is associated with good clinical leadership (Onyett, 2007). From a clinical leadership position, a psychologist can use their understanding of intra and inter group dynamics for the benefit of the team - as acknowledged in the DCP's Leadership Framework.

One example might be the management of relations between teams and services who might share responsibilities for client care - a community team, a crisis team and an inpatient ward team, for example. An understanding of how these teams form part of the complex system around a client could be invaluable, both to enable more effective communication between the teams and to provide 'joined-up' care for the client.
Of course, managing a situation such as this when one is part of the system can be difficult and there may be many factors which are out of the clinical leader's control. However, it seems likely that an understanding of systems and team dynamics would be of value.

In discussion with an inpatient ward manager recently, I was made aware of the difficulties some managers may experience in carrying out the mediating role between their staff team and senior management within a Trust. I have reflected since this discussion that a psychologist with a clinical leadership role within a team might be able to assist the team manager in a situation such as this, to help him or her negotiate and mediate effectively - which would again benefit the wider system.

Clinical psychologists have the skills to facilitate staff support groups, which might be a helpful role they perform for teams. However, it seems to me that this role should not be taken in a team of which the clinical psychologist is part. Having spoken to a colleague in a team who was in this position, I was made aware of the considerable difficulties this presented for her.

When times are difficult for a team of which a clinical leader is part, there will be challenges to be met. Despite not being organisational psychologists, one would expect clinical psychologists to be more equipped than some of their colleagues to understand the mechanisms of work-related stresses. Levels of morale and burnout have been shown to be considerable in some mental health service teams (Johnson et al., 2010). From a clinical leadership position, psychologists might be of use to their teams through recognising and helping to manage work stressors. For example, they might use their knowledge of a job strain model such as Karasek's (1989) control-demand-support model, and aim to enhance the social support levels within their team. Monitoring and managing the levels of these factors with members of the team could help reduce the likelihood of staff experiencing job strain. This would in turn limit sickness absence due to stress, which would also allow the provision of a more consistent service to clients.
Dealing with change

Change is an inevitable part of an organisation such as the NHS, and with severe funding cuts set to continue for some time (Appleby et al., 2009) it appears that change will be a constant in services for the foreseeable future. The clinical leadership position is an important and potentially very useful one in the context of organisational change. The BPS (2007) describe effective leadership as crucial to successful change in services, while Parker and Glasby (2008) identified a lack of strong clinical leadership as one of the barriers to service transformation.

In a study of significant change in a UK hospital, McNulty (2002; cited in Ham, 2003) found that clinicians were unwilling to make changes unless they were able to see that their patients would benefit from them. It was also shown that if staff were actively involved in the change process rather than simply being told what to do by senior managers, changes were effected more successfully. This scenario fits with my recent clinical experience of being in services subject to change - the feeling of change being a completely ‘top-down’ process seemed to make staff feel powerless and that their expertise was not valued. Staff I spoke to seemed to feel more resistant to the changes for these reasons. Their negative experiences appeared to be compounded by the fact that communication about the changes from leaders and managers seemed to be poor.

Hickey (2008), a clinical psychologist, describes an experience of dealing with change from the position of clinical lead within a specialised service. Her article presents a good example of how, from her position, she was able to manage a service change that staff were actively involved in and which had a positive outcome for them. Since it involved the successful introduction of a more inclusive model for service users, it is also likely to have benefitted them. The key approach seems to have been engaging staff explicitly and meaningfully with the process before decisions were made. I note that meaningful consultation appears important. Personal experience of working in teams in
which staff were consulted in what appeared to be a 'tokenistic' manner suggests to me that this approach is not effective.

I will now return to the scenario introduced earlier, regarding the introduction of a recovery approach to the Trust in which I currently work. The change itself seems a very worthwhile one that could have a significant impact on service users' lives, but I have had cause to wonder about possible difficulties arising from the methods being used. Each employee in the Trust is to attend four days of training on the recovery model. However, articles on organisational change have for some time noted that training alone is rarely enough to effect a change successfully (e.g. Georgiades & Phillimore, 1975). Some staff have already mentioned that having to take four days out of their clinical work for the training seems rather a lot, perhaps with little explanation at this point of the value of the new approach. I wonder if there is a danger they will feel this is just another task they are being told to take part in, without their views being meaningfully sought. I also wonder if they will feel able to link what they learn usefully to their experience of client work. This certainly seems to me to be the kind of example where good clinical leadership by local psychologists could be very beneficial - by providing both a model of successfully utilising the approach and a source of encouragement and consultation. It appears that these elements will be necessary (rather than merely beneficial) to the success of this kind of shift in clinical approach.

**Evaluation and research**

There are several important functions that a clinical leadership role can provide within the fields of evaluation and research. The specific training in these areas that clinical psychologists receive means they are likely to have a lot to offer in such a role, particularly since this aspect of their training is undertaken by few other clinical professions to the same level.

Evaluation is of course linked in some ways with the evidence-based practice approach discussed earlier. It can also be seen to encompass clinical governance - including clinical audit and service evaluation. Arya and Callaly
(2005) define clinical governance as "the framework through which health organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care" (p. 241). A commitment to clinical governance should result in quality care for service users and a cost-effective use of government funds, and therefore represents another important area where clinical leadership can result in significant benefit to others.

As a trainee, I was involved in designing and running a service evaluation project while on placement. I could see where it might benefit service users, so felt motivated to carry it out and also had the time available. However, I was aware of several auditing procedures which the team wanted to carry out but were struggling to complete. Evaluation is a vital part of running services, but it seems it can be challenging in a service where clinical demands are pressing and appear more immediate. I can see that it would take skill and commitment as a clinical leader to ensure quality evaluation is conducted regularly.

Service improvement and strategic planning tasks may follow on from the findings of service evaluation, and here the clinical leader can also play an important role. Clinical psychology training should allow clinical leaders to engage with the data and also to create and appraise options for improvement strategies. Holding a clinical leader position in this scenario, rather than that of a senior manager perhaps, should facilitate meaningful and ongoing consultation with staff around improvement ideas – as suggested as good practice by the studies discussed earlier.

Kapur and Wilson (2010) identify research as one of the fifteen 'pillars of excellence' which should guide applied psychologists in their continuing professional development. However, involvement in clinical research is not only an area where psychologists can develop professionally, they can also utilise their positions as clinical leaders to facilitate studies which may in time improve the lives of service users. Such projects might further our understanding of disorders and difficulties for example, or may evaluate new interventions. This position is a particularly important one for ensuring that
research is conducted with a range of client groups. Our responsibilities as researchers and clinicians include retaining an awareness of difference and diversity in the people who might use our services. There are a great many gaps in knowledge regarding the experiences of many marginalised groups using mental health services, and also regarding the suitability and acceptability of interventions. In the research field then, the usefulness of clinical psychologists in leadership positions to groups who are less well represented by the majority could be considerable.

Reflections and discussion

In the current climate of reduced funding and significant changes to health service priorities, it is clear that expensive professions like clinical psychology need to adapt to survive. In this context, the drive for psychologists to take on clinical leadership roles is understandable. Working on this essay has demonstrated to me that the breadth of skills and competencies we can bring to leadership positions is considerable.

However, it is worth considering what the costs of this movement within the profession might be, since it appears that there remain many qualified psychologist who are not making moves towards leadership - who may not be ready or willing to 'put their heads above the parapet'. Indeed, it is surely noteworthy that the first group of clinical psychologists to be granted 'approved clinician' status - a key (statutory) leadership role in mental health care - totalled only four members.

Might one factor be that clinical psychologists are uncertain of the usefulness of their own skills in a leadership context? Participants on a training programme designed to introduce clinical leadership and management to clinical psychologists (Kiemle et al., 2008) noted that perhaps they were not sure of their own leadership skills at the outset. However, one participant reflected that through the teaching and exercises on the course, it became clear to her that she did have the skills already and that these were skills she used as part of her day-to-day clinical work. I have been interested – and pleased – to
note that following the writing of this essay, I too can see that many of the competencies I utilise in my current role would be transferable to a leadership context.

Trying to usefully define clinical leadership at the beginning of this essay showed me that it may not be a concept which is well understood, and may perhaps carry a variety of meanings for people. I have learnt that leadership in a clinical context does not have to mean a managerial role. There are lots of levels at which one can engage one's leadership skills and take on aspects of a leadership role in a manner that is useful to colleagues or services users, but need not be overwhelming. In fact, one of the most powerful leadership tools appears to be modelling, which is a role all of us can take.

It seems to me that there would not be the wealth of positions available if all qualified clinical psychologists were aiming for higher clinical leadership roles. The freezing or reduction of band 8c and 8d posts (i.e. consultant and managerial level) in some Trusts is making these roles even less available, in fact. Berg (1998) argues that the excessive praising of leadership leads to the devaluing of the position of follower, which might be a risky situation. Surely not everyone will make an effective leader. Indeed, Kiemle et al. (2008) report that some of the participants on their course decided that, having informed themselves better of what the role entailed, they no longer wished to become consultants.

Perhaps it is worth considering the potential costs and benefits of more clinical psychologists taking leadership roles. The costs appear to exist on a more individual level - they might include loss of client contact, and perhaps a (perceived) change in the power differential with those clients one does see. The latter cost has certainly been cited by some as a concern around taking on the 'approved clinician' role.

Benefits of an increase in psychologists taking on leadership roles can be found on both a personal and profession level. Personal benefits might of course
include an increase in status and income, as well as a more challenging job which may be a goal. Additionally, it may be rewarding to influence services at a higher level and to lead by example in ways which may benefit users of the service - by building in initiatives around recovery or individualising care more appropriately for service users from marginalised groups. On the level of the profession as a whole there are also benefits. For example, the chance to steer our profession in a desired direction and exercise more control over it. And in addition, the chance to protect and market it effectively - an opportunity that needs to be grasped in the current resource-limited environment.

The DCP Leadership Framework (BPS, 2010) describes leadership as behaviour that "enables organisations not only to cope with change but also to be proactive in shaping the future" (p.1). This statement may also be an accurate description of its value to our profession. Clinical leadership, then, may have the power to improve the position of clinical psychology. More importantly however, this essay has allowed me to see that it has the power to improve the lives of the people we work with.
References


Year One
Problem-Based Learning Reflective Account

A problem-based learning exercise looking at 'Relationship to Change'

March 2010
We were introduced to our first problem-based learning (PBL) exercise as a year group on the first week of the course. It was explained that this exercise would be the first we would need to complete in our Personal and Professional Learning Discussion (PPLD) groups. This introductory session was followed by six weekly group sessions in which our task was to work on the PBL exercise and prepare a presentation for the sixth week. The area we were to work on was 'the relationship to change'. It was explained to us that the remit was deliberately vague because the key learning opportunity was about the process of working together as a group.

At the time, my reaction to this task was one of some trepidation. This was highlighted to me on looking back at the entries in my reflective journal in this first week. I was generally feeling somewhat concerned at the amount of group work that training was going to involve, and had tried to think about why this might be. Firstly, it may be that I am someone who feels more comfortable in a one-to-one scenario or one involving smaller groups (three or four people). Secondly, my job role for two years prior to starting the course had been that of a (lone) research assistant – as the only person working on the study day-to-day. This meant I had become accustomed to making work-related decisions on my own much of the time, so that the group setting felt unfamiliar. I had also expressed some concerns in my journal about the longer-term aspect of our groups – having to stay in these same groups for the full three years of the course seemed daunting, especially as we had not been involved in choosing who we were grouped with. In this context, it appeared to matter more that things went smoothly, which seemed to cause a sense of pressure for us all to get along.

In fact, the experience of being asked to work as part of a ‘pre-decided’ group of people is very common in NHS settings (Onyett, 1999), and is exactly what happened for all of us in our first clinical placements, so the PBL task provided very useful preparation for this. It was also a useful piece of experiential learning in terms of providing some insight into what it might feel like for a client to be starting out in a therapeutic group. It may be helpful to bear in

Year One PBL Reflective Account
mind how it felt for me at this point, when I take a role in running a clinical
group on placement later this year.

I was aware of two main pressures at the outset of the PBL task then - wanting
to be able to develop good relationships with my fellow group members and
wanting to be 'successful' in the task. The desire to get on with others in the
group was not spoken about explicitly at the time, but was acknowledged as a
common anxiety once the task was completed. On reflection, I think this
anxiety is understandable and, rather than something that needed to be 'dealt
with', it was simply part of the process. I have found it useful to openly
acknowledge the (possible) presence of anxiety for clients in initial sessions,
and to normalise this experience. Naming it explicitly seems to go some way to
dissipating it, which is also helpful.

Once we as a group got down to the work of the task in hand, we seemed to
function very well. We reflected later that for us a goal-orientated approach had
helped us to focus and get through some of the uncertainty in the early stages.
In this way, our approach mirrored that of the cognitive-behavioural model
(Hawton, 1989) I have been utilising in client work. For our group, this meant
starting with a 'brain-storming' discussion about ways to think about
relationships to change, and then dividing the areas we came up with between
us, to be looked into before the next session. In work with clients, this has
meant using part of the assessment period to agree on clearly defined shared
goals, thereby giving us something to organise our efforts around. It has
proved to be important that these goals take into account the client's social
context, preferences and strengths as well as the orientation and resources of
the service itself.

As work continued in our group sessions, it inevitably involved frequent
decision-making discussions. Group decision-making is not something I was
familiar with so it was interesting and useful to consider how these worked. As
in any group there were some people who took a more dominant role in
moving things along, some who put forward more ideas, some who had
stronger opinions, some who were quieter. I tended to find that I took a reasonably substantial role in discussions. I have not always found this to be the case in my placement since then, although I manage to contribute reasonably well. I suspect what makes the difference is feeling that in our PPLD group I am amongst peers and therefore on an equal footing, whereas at work I generally feel like the person with the least experience in the room. A recent example in which I realised this difference was during a discussion about ongoing risk issues with my supervisor, during which she suggested I speak to the team psychiatrist about perhaps arranging more support for the client in question. My initial reaction was not being able to picture myself having such a discussion because of what felt like a significant gap in power and expertise between me and the psychiatrist. It appears that this is an area it will be helpful to work on in future, and I will continue to reflect on this in supervision.

An important factor enabling our success in moving the process along in the PBL task seemed to be the ability of group members to be willing to relinquish some control, in order to work collaboratively. This appeared to be difficult to do at times, especially in cases where group members had put significant time and effort into researching and thinking through certain ideas, and feeling they were the best ones to choose. I wonder if we were more able to let go in this instance because we were not generally emotionally invested in our ideas and because the stakes were not high – we knew this was a piece of formative work as part of our training. In contrast, in a clinical situation it can feel harder to let go of one's ideas about the best course of action, which might explain why discussions can be quite difficult at times when important decisions about people's lives or treatment are at stake. However, having practice of this kind of collaborative work in a safe space has enabled exploration of the experience. Through this I have been able to develop a deeper level of understanding of the factors affecting collaborative decision-making, which has been useful in the clinical context. As well as being helpful in a professional group setting, it has been helpful learning for my therapeutic work. It has allowed me to accept those instances where I have needed to be flexible and make significant changes to specific session plans (however much work might have been put
into them), because the session needed to be adapted to suit a client’s changing needs.

I feel that the group made timely decisions about the content and format of our presentation during the PBL task, and so kept on track in terms of the work we needed to complete session by session. However, I wonder now whether sometimes our focus on the task meant we paid too little attention to process issues. For example, making sure that everyone in the group had equal opportunity to voice their views. This can be hard to achieve when time is pressing (as it generally is in clinical services), but is an important aim. Having reflected that we may not have been mindful enough of this in our task, I have made efforts to be more so in my clinical work - with mixed levels of success. In a CPA (Care Programme Approach) meeting I attended with a client earlier this year I did my best to enable his views to be included along with those of several professionals and his parents - one of whom was quite aggressive in her approach and left little space for the client’s views. This experience highlighted to me that taking an advocacy-type role can be particularly difficult in such a setting.

In terms of the topic we chose for our presentation, this was reached by starting with a broad range of areas and gradually narrowing these down in the first few sessions. Each week we assigned ourselves areas to research and feedback on in the next session, and after the feedback we would reflect as a group on the topics we were most drawn to and thought would be most useful to us as trainees. It was perhaps a mixture of our clinical interest and our anxieties about our forthcoming placements which led us to our final topic - ‘resistance to change in therapy’.

We went on to research this topic in more depth, covering a range of ideas and models. Models we chose included a cognitive-behavioural model by Robert Leahy (2001) - the ‘sunk-costs’ model - and a psychodynamic model by Auld (2005) which explains resistance as anxiety around defenses being breached in therapy. We also wanted to include something which used a theory-practice
link to offer a way to deal with resistance in therapeutic work, and chose Motivational Interviewing (Miller and Rollnick, 1991).

I have found that reflecting on our ideas and learning around resistance in therapy useful in my clinical work to date. In particular, I have needed to think further about the image and concept of 'the resistant client' on placement recently. A client referred to me was described by a colleague in the team as 'a professional patient', by which it was meant that she was resistant to help and to changing. Rather than take this as 'fact' I reflected with my supervisor to try to better understand the labelling of clients as 'resistant' and 'difficult' and what we could do to work with multi-disciplinary teams to help them and the client deal more effectively with the situation. Some motivational interviewing work proved useful in establishing how much this client really wanted to change their behaviour, looking at the costs and benefits of changing and their confidence in their ability to effect the changes.

Once we had established the content of the presentation, the group moved on to work out the format and this was the stage in which we bonded most as a group. I think this was in part due to how pleased we felt with the finished product, but also the fact that we had fun putting it together. Humour proved to be an important 'tool' in our journey towards feeling more like a team in this task, and it is something I have also witnessed and used in the workplace. It can be very valuable during a busy, stressful working day dealing with difficult issues and has enabled me to bond more effectively with colleagues in the multi-disciplinary team (MDT).

Looking back at my learning in the PBL task overall, I think it has entailed many key processes that have informed my collaborative work with MDT colleagues, with clients and with my supervisor. As a future learning point, I feel it would be useful to do some additional work around what our experience of the task could add to our understanding of what Lavender (2003) calls 'reflection on impact on others'. This might take the form of direct feedback on what it was...
like to work with each of us from members of the group or perhaps from our facilitator (in an observer role).

References


Year Two Problem-Based Learning Reflective Account

A problem-based learning exercise to deepen our understanding of a complex clinical scenario

February 2011
Introduction to the exercise

Our year group were introduced to a new Problem-Based Learning (PBL) exercise during the second week of term, at the beginning of our second academic year. Following this introduction, we were told we would be responsible for organising our own working times within those marked in our timetables as available for 'PBL discussion time'. These allotted times were spread over the following six weeks, and we were due to give presentations based on our work in the seventh week. We would be working within our Personal and Professional Learning Discussion Groups (PPLDGs) – groups of eight trainees to which we had all been allocated in the first year, and with whom we had worked on several tasks during that year.

The task we were presented with was the consideration of a complex case vignette, within which we were given a range of information. The case pertained to a fictional couple – Mr and Mrs Staines – whose children had been put into short term foster care following a child protection case conference, and who were awaiting a court hearing at which it would be decided what should happen to the children. In the vignette, we were told that a psychologist had been approached to help the court carry out a risk assessment and, if appropriate, devise a rehabilitation plan for them. We were told a range of facts about Mr and Mrs Staines, including background history and family information, and were also told about some of the professionals involved in their case.

Initial thoughts

Immediately following the presentation of the task, we came together as a group to begin our initial discussions. At this early stage, I was aware of several initial thoughts. This task seemed very different to the PBL we had been given during the first year, and appeared to have a much more direct link to real clinical situations. As a group we had been successful in completing that task, and had received excellent feedback. To some extent this was encouraging, but it was also something of a pressure – would we be able to work together so effectively this time? I was aware that we had seemed to 'sail through' the previous task, which meant that we had not had the experience of working
through difficulties or conflict as a group. In our teaching since that task, we had learnt more about group processes. We were aware, for instance, of Tuckman's (1965) four-stage model of group dynamics - in which the stages include 'forming', 'storming', 'norming' and 'performing'. We had yet to go through a 'storming' stage as a group and I wondered how we might manage this.

**Beginning the work**

Our first task was to begin organising the practicalities of working together. We looked at the timetable and noticed that many of the time slots mentioning 'PBL discussion time' also referred to other tasks we might choose to use those same time slots for instead. These included 'end of placement' meetings with clinical tutors, research meetings with supervisors and panel meetings for our major research projects, as well as personal study time. Negotiating and agreeing mutually suitable times for eight busy trainees proved far from straight-forward, because different members of the group had different priorities and different commitments or meetings planned. In addition, some of the group preferred to meet more regularly for smaller periods of time, while others wanted to meet for longer sessions less often.

On reflection, I think this was a useful opening challenge on which to start testing out how well we could negotiate our differences. This is because the areas of difference in this case were not particularly personal or emotionally charged. We managed to come to some compromises relatively quickly - by varying the times and lengths of our planned meetings. This experience with the group has come to mind in clinical situations since the PBL task, when trying to agree times to meet with colleagues. It has seemed that the bigger the group of professionals trying to meet, the harder it is to agree on a time - especially since everyone seems to have a number of pressing demands on their time. As a trainee, I have tried to be flexible as I am aware that I might have a relatively smaller caseload than many people, but I have also tried to help steer the group towards a compromise where possible.
During the second part of our first session, we started discussing our initial ideas about the case presented to us and what we thought were the important issues. Looking back at these early discussions, I noticed that members of the group (myself included) seemed able only to hold on to a few key pieces of information about the case when debating the issues and that sometimes mistakes or assumptions were made regarding facts about the case. I think this has real relevance to clinical situations in which decisions about the care of newly referred clients with complex difficulties are being discussed, such as in a team meeting. In these settings, I have aimed to look back at the referral and assessment information regularly, and tried to ensure all the key factors remain part of the consideration process. This has also been a helpful approach in formulating and planning individual work with clients, and I have been able to discuss this observation with my supervisor.

Throughout these early stages of the work, I was beginning to reflect that my role had tended to be one of helping the group maintain a broad enough view and to reach compromises where possible. I tended not to be aiming for a specific outcome myself, more that all the information be brought into the discussion. Some others in the group did seem to have more specific goals and opinions in mind early on in discussions, whereas my role appeared to be one around facilitation. I have observed since the task that this has helped me to achieve a similar approach in my work with clients, and that my skills in supporting and facilitating are improving. I think I am also more aware of the times I might accidently slip into an advice-giving role, and have been able to reflect that this is often not an appropriate or useful position to take.

**Working towards the presentation**

Based on the debates in our earlier sessions around what the group felt were the key issues in this complex situation, different members of the group volunteered to look into different areas and report back. The problem described included several areas that group members knew little about. These included the experiences of parents who have been assessed as having a learning disability, options regarding care by members of a child's wider family...
system (e.g. grandparents), and understanding more about the roles of some of the professionals involved in this kind of case (such as the court reporter - now more commonly known as children's guardian - a role many of us had not come across before). The process of research and feedback allowed us all to significantly broaden our knowledge in these and other areas.

This experience has directly enhanced my clinical knowledge and understanding regarding clients, their families and the professionals working with them. I feel I have a much better understanding of what such a situation might be like from the parents' perspectives, and of the ways they might experience their learning disability 'label' as leading to assumptions or, worse, prejudices from some professionals. I feel I have been more mindful of the dangers of making assumptions about a client based on demographic or 'diagnostic' information when I have been undertaking assessments with new clients.

Reflecting on the PBL exercise has also allowed me to see that much of my new understanding is relevant across my clinical work as a whole, regardless of the client or situation. In the case we looked at, careful consideration of the systems involved around the children and their parents was crucial. This included the wider family system and also the professional system. In addition, the case we looked at revealed that poor communication between professionals, agencies and services can lead to clients being let down by this system. In my work with clients since this task, I have made more effort to consult the other professionals who are working with them - both to share information but also with an aim to providing more 'joined up' care. As well as being a key strategic aim (e.g. Care Quality Commission, 2010), I have found that this approach seems to have been experienced as more containing for clients.

Group process - an experience of holding a different position
During the earlier weeks when we were working on deepening our understanding of the problem and the complexities of the issues involved, it
seemed that the group was functioning well. We later reflected that this may be because we work well when we are task focused and during stages when there is little need for debate and difference. However, when we moved on to start making some decisions about how we might create a presentation around our understanding of the case, our progress was not so smooth.

From my personal perspective, this stage of the work proved the most difficult to negotiate my way through. My experience was a new and challenging one, as I found myself in a situation where I disagreed with the majority vision of the group. As mentioned earlier, it seemed our group had not progressed through a 'storming' phase of disagreement or conflict, and I think mindfulness of this made me hesitant about 'rocking the boat'. It felt as though part of our identity as a group was about how well and easily we worked together, and I think I was reluctant to be the one to risk a shift in this belief.

During placement work in community teams during my first year, my experience in groups within a clinical context had grown. I had become steadily more aware of the importance of being willing to take a position that might be different from some or all of the members of a group, so I knew this was an opportunity both for me and the group to learn something.

Most of the rest of the group seemed very pleased that progress around decisions was being made so speedily, and seemed quickly attached to the overall presentation idea that was forming. It appeared almost that a kind of 'group-think' effect (Janis, 1972) was taking place among the majority of the group. I found myself unwilling to interrupt the flow, but equally unable to get on board - because I felt the approach being suggested was perhaps lacking in sensitivity and respect for people who might have backgrounds or difficulties similar to those of the clients from the vignette.

On reflection, I have been able to see that I was enabled to take a different position in this situation by a fellow group member. She had noticed that I was far less enthusiastic and involved in discussions than I would normally be in
the group, and stopped discussions to ask me directly what my thoughts were about the presentation idea. Her sensitivity to what I was feeling gave me an opportunity, which I took, to explain my concerns about how the current idea might be experienced by an audience. I was pleased to find that the group were respectful and responsive to my concerns, and we were able to enter into a more balanced discussion of our options.

Some weeks later we reflected as a group about these events, and these discussions proved helpful for us all in better understanding the functioning and processes of our group. I was pleased to hear that two of the other group members felt they had been able to learn through watching the situation described above, and we discussed whether we might understand this as an example of social learning (Bandura, 1977). They both commented that at the time they had felt that they would not be comfortable speaking up in the group if they did disagree with the general consensus. But through seeing what had happened when I was given the chance to disagree – how the group had responded – they reported learning that it was safe to do this in our group, and both said they felt they would feel more able to speak up and take a different position from the majority in the future.

**Final reflections**

It appears that the experience during this PBL task of speaking up against the majority view may be an important one in the context of professional development. It allowed me to start to learn experientially about taking a different position - within the safe environment of our PPLD group. I hope to be able to build on this, both within the group and in clinical settings. Currently, the prospect of taking a radically different position from the majority in a professional team still feels daunting – perhaps because of the more tangible power differentials (in terms of status and experience) – but I feel I would now be more willing to take that 'risk'.

The experience of learning through reflecting on the PBL exercise with the help of the group has been illuminating. I have also been able to build further on
this, and link it more effectively with the clinical context through discussions with my placement supervisor.

Bolton (2003) notes that as clinicians we often need help to reflect effectively on our experience. She draws parallels with the experience that clients may have. I hope to continue utilising my experience while working with clients, to help me facilitate their reflections on their experiences and thereby enabling learning to take place.

In this year's PBL task, our group seemed to learn a lot more than through the first year task about the processes that take place within the group - and the value of reflecting on these as a group. We also learnt a lot of clinically relevant information and gained new perspectives on the professional systems around our clients. In addition, the final outcome was a positive one - our presentation was well received.

References


Year One PPLDG Process Account

A process account of Personal and Professional Learning Discussion Group (PPLDG) work over the first year

September 2010
Summary

This process account is a reflection on the first year of a Personal and Professional Learning Discussion Group. It considers the work undertaken, the experiences gained and the learning that has taken place during the year.

The account discusses several main tasks the group were involved in, including: a 'Problem Based Learning' exercise on 'Relationship to Change'; the presentation and discussion by each group member of a personal cultural genogram; a 'Shared Learning' task engaged with in collaboration with students of another discipline within the university. In each case, reflections are made about the process and outcomes of the tasks.

This account also considers how the tasks engaged with and membership of the group across the year has influenced and enhanced the professional experience of the writer. This includes considerations regarding individual client work, clinical supervision and also membership and joint-working within multi-disciplinary community teams.

Finally, the account includes discussion of the functioning and evolution of the group as a whole across the academic year. It includes observations about the strengths and weaknesses of the group, descriptions of its activities, and considerations of the roles taken on by group members. Suggestions of areas to work on in the future are also made, based on what has been learnt over the year.
Year Two PPLDG Process Account

A process account of Personal and Professional Learning Discussion Group (PPLDG) work over the second year

July 2011
Summary

This process account is a reflection on the second year of a Personal and Professional Learning Discussion Group and again considers the work undertaken, the experiences gained and what has been learnt during this process. In addition, the account also considers how the tasks engaged with and the membership of the group across the year has influenced the professional experience of the trainee, including considerations regarding individual client work, clinical supervision and working within multidisciplinary community teams.

Several areas are explored in the account. The transition to the second year of the group is considered, which entailed an increase in the sense of ownership of the group for its members and significant changes in the way meetings were structured. The impact of these changes is discussed.

The development of the trainee's understanding of roles entailing leadership is explored. Discussion includes consideration of how the group has influenced this process and enhanced the trainee's skills in this area.

The account also examines changes in the group pertaining to risk-taking, including the sharing of information, taking a different position to the majority of the group, and giving feedback to other group members.

Final reflections include a review of the change in learning style over the preceding two years, and the improvement in the trainee's awareness of group-level functioning.
CLINICAL DOSSIER
Overview of Clinical Placements

My three years of clinical placements on the Psych D Clinical Training Course entailed working in a range of services, detailed below:

**Working in Adult Mental Health Services (Year 1)**
For the first half of the first year I was based at a Continuing Needs Service (CNS). This comprised two teams – an Assertive Outreach Team and a Rehabilitation and Recovery Team. My work was based with the latter team. I also spent several days based at an inpatient unit. For the second half of the year, my time was split between the Continuing Needs Service and a Primary Community Mental Health Team (PCMHT).
During this year I worked with adults of both genders and a range of ages, social, cultural and ethnic backgrounds. The people I worked with also had a range of difficulties. In the CNS, clients of the service had longer-term and more complex difficulties and had been given diagnoses relating to psychosis. In the PCMHT I worked with people with both enduring and acute problems. I was involved in some joint work with supervisors at both bases, worked with several clients individually and also co-facilitated a group looking at unusual beliefs and experiences. I also carried out psychometric assessments. I learnt about and used several approaches to therapeutic work including cognitive-behavioural therapy, psycho-education and relapse prevention. I attended multi-disciplinary team meetings and professional practice meetings with regional psychologists during the year.

**Working With Older People (Year 2)**
During the first half of the second year I worked in a Community Mental Health Team for Older People. At this placement I worked with people from a diverse range of backgrounds, some of whom had disabilities which made it difficult for them to communicate, including hearing, visual and memory difficulties. While at this placement I co-facilitated a Cognitive Stimulation Therapy group, which ran for 8 weeks. My work for the group included assessment, and
preparing and running sessions. Attendees were people who had been given a diagnosis of dementia and their carers. At this placement I also worked with individual clients using cognitive-behavioural based approaches and compassion-focused therapy. I conducted two in-depth dementia assessments, which utilised a number of different psychometric instruments including the Wechsler Adult Intelligence and Memory scales.

**Working With Children and Adolescents (Year 2)**

During the second half of the second year I worked in a Child and Adolescent Mental Health Service (CAMHS). At this placement I worked with children with a range of ages (from 8 to 19), with a broad spectrum of difficulties and from diverse backgrounds. Some of my work with children and young people attending the CAMHS was on an individual basis, but most involved some or all of a young person’s family. My work also regularly involved joint-working with other members of the team and liaising with other professionals in a young person’s life (staff at their school, for example). During my work with this team I attended both professional practice and team meetings, and delivered a presentation to the team. In addition, I conducted two full psychometric assessments. Both of these involved administering the Wechsler Intelligence Scale for Children (WISC) and one also entailed the use of the Wechsler Individual Achievement Test (WIAT). My clinical work primarily entailed the use of cognitive-behavioural approaches, but I was also able to engage in thinking and discussion of systemic and psychodynamic ideas within supervision.

**Working in a Pain Management Service – Specialist Placement (Year 3)**

During the first half of my third year of training I carried out my chosen specialist placement. I worked with a Pain Management Programme (PMP) team, which was situated within a Chronic Pain Service within a physical health hospital Trust. In this post I worked with a small team and was involved in delivering both group and individual interventions. The group-based PMP was an intensive programme for people living with chronic pain, and took a multi-disciplinary approach. Each group ran for 3 weeks, and included attendance for full days throughout the week. I took a role in the assessment of clients for
suitability for the group. I was also involved in co-facilitation of group sessions initially, and later took the lead for the psychological input on one of the programmes. The programme interventions incorporated several different approaches. Within my work with the group and with one-to-one clients, I employed approaches including: cognitive-behavioural, mindfulness, acceptance and commitment therapy and solution-focused therapy.

**Working with Adults with Learning Disabilities (Year 3)**

My final third year (and training programme) placement was based with a Community Team for People with Learning Disabilities (CTPLD). This placement enabled me to develop my skills and knowledge about using a systemic approach, as my supervision and therapeutic work was much more explicitly systemic in nature than at previous placements. I worked jointly with a family with my supervisor and also worked with individual clients. During the placement I carried out a psychometric assessment with a client, and also conducted a dementia assessment. My experience with this team also involved indirect intervention work, including assessments and staff consultation meetings with the carers of people who had been referred. This work was carried out in place of, or in addition to, individual therapeutic work.
Summary of Case Report One

Working with a woman presenting with anxiety and depression: from cognitive behavioural therapy to a rumination-focused approach

Year One

May 2010
This case report described a piece of work carried out with a client referred to the psychologists in a community mental health service. The client was a white, British woman in her early fifties who presented with difficulties including low mood and anxiety. Initial assessment with structured clinical measures (the Beck Anxiety Inventory and the Beck Depression Inventory-II) suggested she was experiencing 'moderate' anxiety symptoms and 'severe' depressive symptoms.

After three assessment sessions, my supervisor and I developed an initial formulation. Predisposing factors in the initial formulation included critical and emotionally unavailable parents. The trigger event seems to have been a situation in which the client was dealing with a large amount of responsibility with no support. Factors maintaining difficulties appeared to be continued lack of emotional support or structure, and negative thoughts about not being able to cope.

Six intervention sessions of CBT-based work for depression and anxiety were planned, to include behavioural activation through event scheduling, and cognitive work including the identification and challenging of negative automatic thoughts.

Repeated outcome measures and both mine and the client's subjective experiences suggested little progress after these six sessions. Evidence from the examination of process in sessions began to suggest rumination may be a key factor in maintaining the client's difficult moods and may also be interfering with therapy. Further investigation with the client, other staff team members and clinical notes from previous work backed up this hypothesis and a re-formulation of the problem was carried out reflecting these findings in conjunction with relevant theory.
Summary of Case Report Two

Working with a man presenting with obsessive-compulsive disorder (OCD) using a cognitive-behavioural approach

Year One
August 2010
This case report also described work carried out with a client referred to the psychologists in a community mental health service. The client was a white, British man in his early twenties who presented with difficulties including low mood and obsessive-compulsive difficulties. Initial assessment with structured clinical measures (including the Obsessive Compulsive Inventory, the Responsibility Attitude Scale and the Responsibility Interpretations Questionnaire) suggested he was experiencing clinical levels of difficulty with his OCD. The client reported wanting to work on these difficulties since they were significantly affecting his life.

After three assessment sessions, the client and I developed an initial formulation with the help of my supervisor around the 'vicious flower' CBT model for OCD to explain the occurrence and maintenance of the client's symptoms.

Six intervention sessions of CBT-based work for OCD were planned and carried out. Work included the creation of a hierarchy for conducting Exposure and Response Prevention tasks, cognitive work on responsibility appraisals, and discussions around normalising the experience of intrusive thoughts.

The client and I reviewed our progress after these six sessions, and he again completed the outcome measures. We concluded there had been some limited progress. The client described the most important change as a significant reduction in the distress caused by (and, over time, the occurrence of) what he considered to be the most disturbing intrusions he experienced.

Consideration of what had appeared to be the main issues limiting progress led to ideas about new areas of focus for future work including acceptance and mindfulness-based approaches, and looking at interventions tailored more specifically to the themes involved in the difficulties client was struggling with.
Summary of Case Report Three

Neuropsychological assessment of a 68 year old woman experiencing memory problems

Year Two

April 2011
This case report described a neuropsychological assessment carried out with a client within a Community Mental Health Team for Older People. The client was a 68 year old white, British woman who presented with concerns about short-term memory difficulties. She was referred to the team for assessment to establish whether there might be an underlying cause for these and to help aid the diagnosis process if appropriate.

The assessment began with a clinical interview to gather details from the client about her difficulties, and her personal and medical history. Relevant literature was then reviewed, looking at the neuropsychological profiles seen in mild cognitive impairment, the two most commonly diagnosed dementias (Alzheimer's disease and vascular dementia) and depression. It was hypothesised that given the client's history and symptoms, these conditions were all possible underlying causes of her symptoms.

A battery of tests was selected on the basis of several factors, including the nature of the information required to test these hypotheses and the reliability and validity of the measures. Tests were administered over three sessions, during which reassurance and encouragement were provided to help the client manage her anxiety about the assessment.

The findings were discussed in the report, with reference to the hypotheses presented. Consideration of the test scores and client's presentation during testing, in conjunction with her family history and the description of her difficulties, led to a conclusion that they are most consistent with Alzheimer's disease. These findings were fed back to the client and her partner, and the referrer, and recommendations were offered.
Summary of Oral Presentation of Clinical Activity

Working with a teenage boy with a history of difficulty attending school and his family

Year Two

September/October 2011

This Oral Presentation of Clinical Activity pertained to work carried out with a young person of 14 years of age and his family at a Child and Adolescent Mental Health Service. The assignment required that the piece of work be presented within the context of trainees' personal and professional development.

In the presentation, I noted that I had started the course unsure of my clinical skills because I had less experience of clinical work than many of my peers in the training cohort. I observed that critical to the development of a range of clinical competencies in my training to date had been learning to use clinical supervision.
Through supervision I had begun to broaden my focus in assessment, formulation and intervention from a more individualistic approach to include more explicit thinking about the system(s) a client is part of. Consideration of how these systems relate to clients' difficulties in terms of development and maintenance has enhanced my clinical practice. The piece of work discussed in this presentation was an example of this approach and represented a move into more integrative thinking.

The young person presented had been referred with a history of difficulties attending school that had severely interfered with his education. Several educational professionals had worked with him to try to help him improve his attendance but by the time of his first psychology assessment session he was not attending school at all. His presenting difficulties included anxiety, low mood and low self-esteem.

Working with this young person enabled me to develop several of my clinical skills. These included learning to formulate using a more integrative, inclusive approach. Intervention work included working with this young person and his family to address some of the patterns of behaviour that had developed in the family unit. These included some of the ways family members talked about the client which appeared to be playing a role in maintaining his unhelpful beliefs about himself, and making it harder for him to see his situation changing. The challenge of raising potentially difficult feedback with clients and their families presented a particular learning opportunity for me, and it was noted that clinical supervision provided a very helpful space to discuss, prepare for and debrief after this.
Summary of Case Report Four

Co-facilitating a multi-disciplinary Pain Management Programme for people living with chronic pain

Year Three

May 2012
This case report describes work carried out as part of a multi-disciplinary team running a Pain Management Programme in a hospital setting. The other members of the team were a consultant clinical psychologist, an occupational therapist, a physiotherapist, a nurse and a specialist therapy technician.

The Programme was an intensive 3-week course, for which group members were required to be at the hospital from 9.30am to 4.30pm each day. The PMP aimed to teach people a range of strategies to help them manage their pain and associated problems more effectively. It was not intended to cure peoples' pain, but was designed to help them improve their physical function and quality of life and reduce emotional distress, despite the presence of ongoing pain.

Eight members began the group programme discussed in this report, and seven completed it. Formulation of group members' difficulties was understood using a biopsychosocial model, shared with group members. During the programme discussed in this report I conducted nine sessions as sole facilitator and jointly facilitated four others. The programme had an integrative theoretical framework. It was broadly based around cognitive-behavioural principles, but also included aspects of Acceptance and Commitment Therapy, solution-focused work, mindfulness approaches, and addressed contextual factors around communication and relationships. The impact and importance of group processes was also discussed in the report.

Outcome measure scores varied considerably. Although several scores had not changed substantially, all the larger changes observed appeared to suggest improvements. The most significant changes were seen in walking stamina, perceived disability and perceived self-efficacy. The complexities of measuring improvement relating to the programme were discussed.
RESEARCH DOSSIER
## Research Log

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<td>Formulating and testing hypotheses and research questions</td>
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<td>Carrying out a structured literature search using information technology and literature search tools</td>
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<td>13</td>
<td>Writing patient information and consent forms</td>
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</tr>
<tr>
<td>14</td>
<td>Devising and administering questionnaires</td>
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<td></td>
</tr>
<tr>
<td>15</td>
<td>Negotiating access to study participants in applied NHS settings</td>
<td>✓</td>
</tr>
<tr>
<td>16</td>
<td>Setting up a data file</td>
<td>✓</td>
</tr>
<tr>
<td>17</td>
<td>Conducting statistical data analysis using SPSS</td>
<td>✓</td>
</tr>
<tr>
<td>18</td>
<td>Choosing appropriate statistical analyses</td>
<td>✓</td>
</tr>
<tr>
<td>19</td>
<td>Preparing quantitative data for analysis</td>
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</tr>
<tr>
<td>20</td>
<td>Choosing appropriate quantitative data analysis</td>
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</tr>
<tr>
<td>21</td>
<td>Summarising results in figures and tables</td>
<td>✓</td>
</tr>
<tr>
<td>22</td>
<td>Conducting semi-structured interviews</td>
<td>✓</td>
</tr>
<tr>
<td>23</td>
<td>Transcribing and analysing interview data using qualitative methods</td>
<td>✓</td>
</tr>
<tr>
<td>24</td>
<td>Choosing appropriate qualitative analyses</td>
<td>✓</td>
</tr>
<tr>
<td>25</td>
<td>Interpreting results from quantitative and qualitative data analysis</td>
<td>✓</td>
</tr>
<tr>
<td>26</td>
<td>Presenting research findings in a variety of contexts</td>
<td>✓</td>
</tr>
<tr>
<td>27</td>
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<td>✓</td>
</tr>
<tr>
<td>28</td>
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</tr>
<tr>
<td>29</td>
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<td>✓</td>
</tr>
<tr>
<td>30</td>
<td>Applying research findings to clinical practice</td>
<td>✓</td>
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Abstract of Group Qualitative Research Project

What role do 'the arts' play in people's lives? An Interpretative Phenomenological Analysis

Year One

June 2010
Abstract

There has been much debate about the relationship people have with art, over time and across cultures. Traditionally, researchers seeking to understand people's responses to art have constructed laboratory experiments to gauge participants' reactions to artistic stimuli. A qualitative approach would provide a richer account of individuals' experiences.

Each of the five researchers in the group recruited and interviewed one participant from their own social group. This sample of five participants consisted of four females and one male, all of whom were White and British. The age range was 26-43 years. The semi-structured interviews lasted 20 to 30 minutes and were digitally recorded, and later transcribed verbatim.

The process of analysis followed the recommendations of Smith and Osborn (2008), with modifications to allow for the research to be carried out by a group: the group of researchers analysed one transcript together, then analysed the transcript of their own participant separately. The group then produced super-ordinate themes together.

Themes identified included the arts: being used as an emotional resource; having meaning for the self; providing a connection to others; and broadening horizons. The credibility of the analysis, the strengths and limitations of using a qualitative approach, and the effect of the process of carrying out the project on the researchers were reflected on.

Reference:
Service Related Research Project

Adherence to NICE Schizophrenia Guidelines for psychological intervention in a tertiary Continuing Needs Service

Year One

July 2010

To protect the confidentiality of those involved and to preserve anonymity, some details in this report have been changed.
Contents

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Acknowledgements

I would like to acknowledge the clients and staff of the Continuing Needs Service at which this project was carried out. I would also like to thank both my field and university supervisors for their help in planning and carrying out this project.

Feedback to the service

At the time of first submission of this project report, feedback of the results to the service was yet to be carried out. The results were shared with the service later in the placement, and evidence of this is shown after the report in this Portfolio.
Abstract

Objectives:
This project was conducted in order to establish levels of adherence to the recommendations for psychological interventions in the 2009 NICE Schizophrenia Guidelines in a tertiary Continuing Needs Service, and to investigate what factors might account for the levels found. It also aimed to look at how these might be addressed in future.

Design:
The project has a mixed methods design in order to address both the descriptive and exploratory elements of the research objectives. Data were collected using a primarily quantitative questionnaire and a short structured interview.

Samples:
The questionnaire sample comprised 32 clients of the Continuing Needs Service about whose care data were collected. This sample represented one third of the 96 clients within the service who had been given a diagnosis of schizophrenia or a related disorder.
The interview sample comprised the 14 care coordinators within the service from a range of professions.

Results:
Levels of adherence were found to be low. Results included findings that 56% of the client sample had not been offered CBT. Knowledge of the guidelines and of what CBT for psychosis would entail was also found to be low. However, staff identified factors that had enabled referral and engagement in some cases, knowledge of which could be utilised for future practice.

Discussion:
The applicability of the findings to the service and to the wider clinical field is discussed. Limitations of the project are noted. Recommendations for future research include investigation of factors affecting adherence, particularly those positively influencing adherence levels.
Introduction

The National Institute for Health and Clinical Excellence (NICE) is an independent organisation that provides guidance and sets quality standards for clinical work in the NHS (NICE, 2010). Clinical guidelines for working with people diagnosed with schizophrenia were the first mental health guidelines to be published by NICE (NICE, 2002). When updated guidelines were published last year (NICE, 2009), this event renewed interest in looking at levels of adherence within services, as well as feasibility of adherence and the practical value of the guidelines.

Many organisations and researchers have acknowledged and written about the difficulties found across a range of conditions and services in implementing NICE guidelines (e.g. (Department of Health [DoH], 2005) and the guidelines for schizophrenia are no exception. The All Party Parliamentary Group on Mental Health (APPGMH) published a report this year (APPGMH, 2010) highlighting the difficulties experienced in services around implementing the schizophrenia guidelines in particular. One of the most problematic areas of the guidance to implement effectively has proved to be psychological intervention.

Although it appears than anti-psychotic medication is still the mainstay of treatment offered for clients1 in longer-term services, evidence for the addition of psychological interventions is good (e.g. Haddock & Lewis, 1996; Wykes et al., 2008). Indeed, the breadth and quality of the evidence available is what led to the inclusion of psychological interventions in the original guidelines and to the shift of emphasis towards greater use of them in the updated guidelines.

However, it appears the gap between what is recommended and what is currently being achieved is considerable. In the APPGMH report, 35 Trusts were surveyed. A resounding majority of these (94%) reported that they had met obstacles in offering psychological therapies as per the guidelines. This picture

---

1 It was decided to use the term clients in this report when referring to people who use the service since this was the term used by the staff team (in their answers to open response questions).

Service Related Research Project
is supported with evidence from a recent review of implementation of those psychological interventions recommended in the 2002 guidelines (Berry & Haddock, 2008), which found that people with a diagnosis of schizophrenia still had poor access to psychological input despite the recommendations.

The NICE guidelines for schizophrenia are relevant to the planning and operation of all mental health services working with people with a diagnosis of schizophrenia, including specialist tertiary services designed particularly for people with chronic psychotic symptoms. One such service, Greenbridge Continuing Needs Service (GCNS), is the setting for the investigation into implementation to be presented in this report.

On a local service provision level, it would clearly be useful to establish to what extent those psychological interventions recommended in the NICE guidelines were being met in this service. The psychologists in the team felt adherence was low, but it had not recently been measured. Further to establishing this, there was scope to undertake some brief exploratory work with the service team to investigate the reasons behind current levels of adherence to guidelines and possible approaches to increase this.

Beyond the widespread acceptance of the existence of the problems of implementation and adherence, there remains only a limited understanding of the nature of the barriers involved and, crucially, what might be done to address them in future. Rowlands (2004) stated that difficulties were attributable to widespread problems in mental health services such as high staff turnover and vacancy numbers, and services stretched beyond capacity. The APPGMH reported that the principle reason given by Trusts was simply 'a lack of resources to recruit or employ enough staff to provide this service' (p. 5). Berry & Haddock (2008) also looked at barriers to implementation in their review. They cited factors associated with mental health professionals, the needs of users of services and of organisations.

---

2 Service names have been changed to protect anonymity in this report.
One area that appears to require further exploration is looking at what factors apart from those directly related to resources might be affecting adherence at a local level. The GCNS team\(^3\) provided a good opportunity to investigate possible alternative factors, since despite the apparently low adherence level (to be confirmed or disconfirmed through this project) there was no waiting list for psychological input at the time this project began.

The research questions for the project, then, are as follows:

1) To what extent are the psychological aspects of the 2009 NICE Schizophrenia Guidelines being adhered to in a Continuing Needs Service?

2) What factors apart from lack of resources might explain current adherence levels?

3) How might these be addressed in future practice?

---

\(^3\) This service includes two teams: an Assertive Outreach Team (AOT) and a Rehabilitation and Recovery (R&R) team.
Method

Design
In order to address the range of research questions posed, this project has a mixed methods design. Data were collected using a primarily quantitative questionnaire (with some open response options) and a short, structured interview.

Ethical considerations
In consultation with the service and the field supervisor, it was confirmed that the nature of the project was considered to be part clinical audit (first research question) and part service evaluation (second and third research questions). This meant that Ethics/Trust Research & Development approval were not required. Since the data that needed to be collected for the project were considered to be in line with the standard audit/evaluation procedures of the service, it was decided that additional consent need not be sought to use this information. In addition to this consideration however, the purpose and process involved (including anonymity of answers given) were explained when approaching staff regarding the service evaluation questions.

Questionnaire

Sample
At the time of data collection the service had 160 clients. Within this client group was a group of 96 for whom the Schizophrenia Guidelines were directly relevant. These were clients who had been given a diagnosis of what NICE describes as 'schizophrenia or a related disorder'. 32 clients (one third of this population) were randomly selected for inclusion in the study. This sample size was decided on after consideration of the time available for data collection, the time required to collect these data and the balance involved in also allowing for collection and analysis of the interview data. A practical method of

---

4 Related disorders are stated to include schizoaffective disorder, schizophreniform disorder and delusional disorder.
randomisation was used. Of the 96 suitable clients in the service caseload list, every third client was included.

Basic demographic data about these clients and the diagnosis given to them at the service are shown in Table 1. 40% of the sample were AOT clients and 60% were R&R clients.

Table 1: Quantitative sample demographic data.

<table>
<thead>
<tr>
<th>N</th>
<th>Gender</th>
<th>Age range</th>
<th>Mean Age (SD)</th>
<th>Ethnicity</th>
<th>Diagnosis given</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>31% female; 69% male</td>
<td>25-70</td>
<td>45 (12.11)</td>
<td>9% Black African</td>
<td>3% Delusional disorder</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3% Chinese</td>
<td>22% Paranoid schizophrenia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3% White Irish</td>
<td>6% Schizoaffective disorder</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>84% White British</td>
<td>69% Schizophrenia</td>
</tr>
</tbody>
</table>

Procedure

A questionnaire to be used for the collection of data had already been designed and piloted by a local Trust-level working group, the 'Schizophrenia Guidelines Implementation Group'. By the time data collection started for this project, this group was no longer meeting regularly, but a preference for retaining the original questionnaire was expressed by the CNS service.

The questionnaire used is shown in Appendix A. It had not been tested for reliability or validity at the time of the project. A small pilot conducted in the service for this project showed that client files did not often yield definitive answers to the questions. For data collection proper therefore, the questionnaires were completed as a structured interview with each client’s care coordinator (CC) as these staff had proved a more reliable source in the pilot.

---

5 This was comparable to the full CNS caseload, in which 38% of clients were with the AOT and 62% were with the R&R team.
The results of the questionnaires were analysed and presented as standard descriptive statistics.

**Interviews**

*Sample/Participants*

Interviews were conducted with each care coordinator in the service (N=14). Table 2 summarises the proportion of the sample made up by each profession.

<table>
<thead>
<tr>
<th>Profession</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Therapists</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Psychiatrists</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Social Workers</td>
<td>3 (22%)</td>
</tr>
<tr>
<td>Mental Health Nurses</td>
<td>7 (50%)</td>
</tr>
</tbody>
</table>

**Procedure**

A short, structured interview was designed to elicit information about factors which might be affecting adherence. It was designed in consultation with both the field and university-based project supervisors, both of whom had a good knowledge of the Guidelines and considerable experience of working with people with a diagnosis of schizophrenia. Questions chosen reflected the fact that despite (postulated) low adherence levels in the service there was no waiting list for psychological input. Given this situation, key factors were then likely to be referral for psychological intervention, and engagement. Question areas included care coordinators' knowledge of both the NICE guidelines and of what therapy would involve. The interview schedule is shown in Appendix B.

Notes were made on the answers given during the interviews. Transcriptions of these notes would form the data to be analysed using thematic analysis. This method was chosen due to its suitability for the purposes of the project. It can be applied to data to enable identification, analysis and reporting of themes but is considered flexible with regard to epistemological and theoretical
commitments (Braun & Clarke, 2006), and also to methodology employed – an important consideration since the interviews were not transcribed verbatim.

**Results**

**Questionnaire data**

*Individual cognitive–behavioural therapy (CBT)*

Table 3 shows the range of answers given regarding whether – and if so, when - clients were offered individual CBT.

<table>
<thead>
<tr>
<th>Whether/when CBT offered</th>
<th>Number of clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not offered</td>
<td>18 (56%)</td>
</tr>
<tr>
<td>Offered in previous 12 months</td>
<td>6 (19%)</td>
</tr>
<tr>
<td>Offered between 1 and 2 years ago</td>
<td>3 (9%)</td>
</tr>
<tr>
<td>Offered over 2 years ago</td>
<td>5 (16%)</td>
</tr>
</tbody>
</table>

Of those clients offered CBT in the previous 12 months, four clients in the sample (12.5%) had received at least one session of individual CBT (the others had declined or not attended). Work with all four clients was reported to have been delivered as per the guidelines: one-to-one, planned to include at least sixteen sessions, and to have included activities such as monitoring thoughts, emotions and behaviours and promoting alternative coping strategies. Sessions were delivered by a qualified or trainee clinical psychologist.

When asked why CBT had not been offered, in half the cases (nine) the care coordinator (CC) said they did not know. In the other nine cases, CCs said they had decided CBT was not appropriate for the client. Two said they did not consider the clients in question were 'psychologically minded'. Seven gave more detailed explanations as shown in Appendix C. Recurring themes in these answers seemed to be clients' 'lack of insight' into their difficulties and the client having very limited contact with services – where contact with CCs was barely being maintained and further input was not thought feasible.
**Group/Arts therapies**
Across the sample, only a small number of clients had been referred for either Group Therapy for psychotic symptoms (4 - 12.5%) or Arts Therapies (3 - 9%) in the previous 12 months. Reasons given for this included CCs not thinking these therapies would be appropriate (48%) and not being able to identify why they had not referred for them (17%).

**Family work/intervention**
Five of the clients surveyed (16%) had been offered family work in the past. Reasons for the decision not to refer for this varied widely. In two cases, clients 'not being psychologically minded' was cited. In a further two, CCs said they 'did not feel there were any family issues' to be addressed. In ten cases (31%), the lack of availability of or client contact with family members/carers was identified – a situation in which NICE acknowledge family work is not appropriate.

**Other psychological interventions**
There were very few cases of other psychological interventions being offered. No clients had been offered adherence therapy, two had been offered counselling or 'supportive psychotherapy' and two had been offered social skills training.

**Interview data**
A wealth of data were collected through the interviews and analysed. The original data are presented in full in Appendix D. Due to limited space in this report, however, results of the analysis pertaining to just two main areas will be presented here – those most closely related to the project research questions.

First, what can these data add to the questionnaire findings relating to the second research question – looking at factors explaining current adherence levels? Results from the questionnaire suggested that in several cases care coordinators could not give reasons for not having offered interventions to
clients. The interview data provided an opportunity to investigate this further by looking more closely at the knowledge bases staff are working with regarding both the guidelines and CBT for psychosis.

**Knowledge of NICE Guidelines for Schizophrenia**
Looking at the staff team overall, this knowledge was very limited. Although one or two staff had a sound knowledge of the guidelines, several acknowledged that they knew very little or nothing about them. The majority of the team were somewhere in between - they thought that CBT and/or the 'talking therapies' might be recommended, though often reported being unsure as to any further details.

**Knowledge of CBT for psychosis**
The knowledge base here appeared somewhat stronger but was still very limited. Some themes were found in the data. 'Weaknesses' included not knowing at all, and misunderstandings (e.g. having been "told that CBT is not suitable for people with psychosis"). 'Strengths' included awareness of some of the core components of the intervention. Half the team referred to 'finding better coping strategies', and there were mentions of working with symptoms and distress.

The data cover many more factors relating to adherence and several of these are also incorporated into the second area to be presented here. Here, a solution-focused approach has been taken as a way to engage with the final research question - how to address adherence in future practice.

Looking at the data for ways to address future guideline adherence yielded rich results. Figure 1 offers an overview of the themes developed from the data, which could be used as a starting point to consider ways the service might improve adherence.
The two super-ordinate themes developed were: preparation and flexibility. These themes were primarily developed from extracts discussing current effective strategies, identified gaps/problems and creative solutions suggested in the course of the interviews. The diagram summarises how other ideas from the data are related to these key themes.

![Diagram summarising the themes and ideas relating to future practice, developed from interview data](image.png)

Figure 1: Diagram summarising the themes and ideas relating to future practice, developed from interview data

Service Related Research Project
Discussion

Adherence to the psychological aspects of the 2009 NICE Schizophrenia Guidelines was predicted by to be low in Greenbridge CNS, both by psychologists in the team and by findings elsewhere (APPGMH, 2010). The results of this project confirm this, across the full range of interventions surveyed.

Findings suggest a range of factors might be affecting adherence levels. Questionnaire results suggested a lack of knowledge or awareness could be playing a part. This idea found some support in the interview data - there are acknowledged gaps in team members' understanding of who is suitable for referral and what the interventions might involve, as well as about the NICE recommendations. This is something that could be addressed through inclusion of these topics in team teaching or discussion sessions.

Several reasons cited by staff for non-referral may reflect something about the type of service being looked at here, and the needs of the client group. CNS clients may sometimes have more pressing practical needs or concerns - such as housing or basic survival concerns - which may reasonably need to be addressed before contemplation of a therapy referral. These observations from the CNS staff lead to questions about the Guidelines' applicability to specialist services' client groups. The wide gap between the recommendations and 'adherence' for chronic sufferers of schizophrenia continues to be acknowledged (e.g. Salter, 2009). It may be that the Guidelines are too generic for services like the CNS to be expected to achieve high adherence, and perhaps this too needs to be more readily acknowledged.

It does appear that there is scope to improve adherence in the service looked at in this project. The solution-focused approach to data collection and analysis has yielded some initial ideas which the service may take forward. These include explicit preparatory work for both staff and clients, and more flexibility around delivery.
The relatively small sample sizes of this study, the specialism of the service involved and the minimal ethnic diversity of clients surveyed mean the generalisibility of the findings are limited. However, given the high number of NHS services working with people with long-term problems related to schizophrenia they may still be of interest. The low levels of adherence being achieved nationally and across services are well established, but it seems that further research is needed on a larger scale to establish the factors that are making a difference - in positive as well as negative directions. Clients and staff know what these are, and as such are crucial resources through which to start the move away from a situation which persists despite the recent Guideline update - one of significant discrepancy between what is recommended and what is currently being achieved.

The qualitative analysis of the data by a team member in this project meant this was carried out from a very specific position. Being within the clinical team and knowing the participants will have affected interpretation and theme selection during the analysis process. The collection of data by a member of the service team may also have introduced social desirability factors. However, this perspective - from within a service team - is an authentic and important one. It might also be valuable to add to this with other perspectives in future research. Examples of such perspectives might include those of people who use the service, carers and researchers from outside clinical/NHS systems.
References


APPENDIX A: Questionnaire used for collecting quantitative data
(designed by members of the 'Schizophrenia Guidelines Implementation Group')

Audit of the Provision of Psychological Therapies within a CNS

Date form completed: _______________    Client ID: __________________________

Diagnosis: ________________________    Care Co-ordinator’s ID: ________________

Team: AOT  R&R

SERVICE USER BACKGROUND:

Gender: Male  Female  Not stated  Age: ____________ yrs

Ethnicity (circle as appropriate):

White
British
Irish
Any other White background

Black or Black British
Caribbean
African
Any other Black background

Mixed
White and Black Caribbean
White and Black African
White and Asian
Any other mixed background

Other ethnic group
Chinese
Any other ethnic group

Asian or Asian British
Indian
Pakistani
Bangladesh
Any other Asian background

Unknown

COGNITIVE BEHAVIOUR THERAPY:

1) Has the service user been offered CBT for psychosis in the past?
   Yes __________ (go to 1a)
   No __________ (skip to 3)
   Not known ______ (skip to 3)

a) If Yes when was CBT offered?
   • in the last year
   • between 1 and 2 years ago
   • over 2 years ago
b) If Yes when did they complete CBT?
   • in the last year
   • between 1 and 2 years ago
   • over 2 years ago

c) If No, why was CBT not offered?
   • Do not know
   • It was decided that CBT was inappropriate

   *If it was considered inappropriate, what was the reason?*
   • Service user recently completed psychological therapy
   • I did not know service users could access individual CBT for schizophrenia/psychosis
   • I felt that group work for schizophrenia would be better
   • Service user considered too distressed to benefit from psychological therapy
   • Service user not considered to be "psychologically minded"
   • There was a long wait for individual work
   • Other reasons (please specify) _______________________________________

2) For those service users who received CBT for psychosis (in the last 12 months), was this:
   • delivered on a one-to-one basis?  
     - Y  
     - N
   • delivered over a minimum of 16 planned sessions?  
     - Y  
     - N
   • How many sessions did they have?  
     __________
   • Delivered by whom?  
     ______________

   Did the CBT include any of the following:
   • People monitoring their own thoughts, feelings or behaviours with respect to their symptoms?  
     - Y  
     - N
   • Promoting alternative ways of coping with target symptoms?  
     - Y  
     - N
   • Reducing distress?  
     - Y  
     - N
   • Improving functioning?  
     - Y  
     - N

3) Has the service user received at least one session of group therapy for psychosis (e.g. group for voices or paranoia or open group for psychosis, NOT bipolar group) in the last 12 months?  
   - Y  
   - N

**ARTS THERAPIES:**

4) Has the service user been offered Arts Therapies (this includes art, music or drama therapy) in a group or individual format – particularly those who have negative symptoms (in the last 12 months)?
Yes ___ (skip to 3b)  
No ___ (go to 3a)  

a) If not offered why not:  
• Do not know  
• Service user refused  
• Care co-ordinator did not think it appropriate  
• Care co-ordinator was not aware of Arts Therapies in the locality  
• Other reason (please specify) ________________________________  

**FAMILY WORK/INTERVENTION:**  

5) Has the service user and family been offered family work/intervention for schizophrenia/psychosis in the past?  

Yes ___ (skip to 4b)  
No ___ (go to 4a)  

a) If not offered, why not?  
• Care co-ordinator felt not appropriate  
  WHY? ______________________________________________________  
• Do not know  
• Service user recently completed psychological assessment only (date) ______  
• Service user recently completed psychological therapy (date) _________  
• I did not know service users could access family work/intervention for schizophrenia/psychosis  
• It was felt that group work for schizophrenia would be better  
• Service user considered too distressed to benefit from psychological therapy  
• Service user not considered to be “psychologically minded”  
• No family/close friends/carers available  
• No contact/little contact with carers  
• Contact with carers viewed as jeopardising contact with client  
• Other reason (please specify) ___________________________________  

b) If Yes when was family work/intervention offered?  
• in the last year  
• between 1 and 2 years ago  
• over 2 years ago  

6) If offered, were the family referred onto the family work team?  
Yes ___ (skip to 5b)  
No ___ (go to 5a)
a) If No why?
   • Do not know
   • Service user refused
   • Family refused
   • Other reason (please specify) _________________________________

b) If Yes when were they referred?
   • in last year (go to 6)
   • between 1 and 2 years ago (skip to 7)
   • over 2 years ago (skip to 7)

7) If the family had family intervention in the last 12 months:
   • Did it include the person with a diagnosis of schizophrenia? Y ___ N ___
   • Was it carried out for between 3 months and 1 year? Y ___ N ___
   • Did it include at least 10 planned sessions? Y ___ N ___
   • Did it take account of the whole family’s preference for either single or multi-family intervention? Y ___ N ___
   • Did it take account of the relationship between the main carer and the person with schizophrenia? Y ___ N ___
   • Did it have a specific supportive, educational, or treatment function? Y ___ N ___
   • Did it include negotiated problem solving or crisis management work? Y ___ N ___

OTHER SPECIFIC INTERVENTIONS:

8) Was the person offered counselling and supportive psychotherapy? Y ___ N ___
   Y _____ N ______

9) Was the person offered adherence therapy (as a specific intervention)? Y ___ N ___
   Y _____ N ______

10) Were they offered social skills training (as a specific intervention)? Y ___ N ___
APPENDIX B: The interview schedule used for qualitative data collection

1. On the occasions that the client has been referred for psychological input and they have accepted, what do you think facilitated/helped this to happen? (Solution-focused)

[Prompt for: what helped care co-ordinator make the referral and what factors were involved in the client accepting/attending]

1a. If have been no referrals, why not?

2. What do you think would make it more likely that clients with diagnoses of schizophrenia would (want to) accept a referral for psychological help/attend sessions?

3. What do you know about what the therapy would be about/like?

4. What do you know about the NICE recommendations for people with schizophrenia?

5. What do you think would help increase your knowledge of them?
APPENDIX C: Reasons given by care coordinators for why CBT was not thought to be appropriate for clients (and therefore not offered) – answers to Q19(c)

- Geographical issue - he is out of area. Also, he would refuse even if offered.

- No psychologists to refer to until recently and client not very stable at present. Might refer in future though.

- The client is already averse to contact with services. We have reached a compromise that I (CC) see him only every four weeks. He has been in prison for long spells and I think he has a negative view of authority and services.

- Client has no insight, does not believe she has a mental illness. Telephone contact with the CC is all the client will allow. Only just maintaining contact with service - by a thread.

- Only very limited contact with the client is possible at present.

- This client has little insight into her difficulties and is cognitively limited. She is also a very anxious worried person who does not find it easy to try new things.

- This client is not stable enough at present. He has little insight currently and is pre-occupied with a fixed delusion.

- He would refuse. When he's not on the ward and at home he doesn't like to mix or be involved in any groups. He was referred for therapy and groups when on the ward but refused to go.

- Client does not see herself as having a mental illness/problem; no insight. She is on a CTO to see CC every two weeks and this is the only service she is willing to be involved with.

- Client doesn't see himself as having a problem. Has a serious speech impediment and very difficult to understand. He takes every conversation back to the past - I don't think a therapist would be able to work with him.
APPENDIX D: The original interview data in full

Q1 – On the occasions that the client has been referred for psychological input and they have accepted, what do you think facilitated/ helped this to happen?

[CC=Care Coordinator]

CC1: Encouragement from the care coordinator as to the benefits of engaging, to increase a client’s motivation to get involved.

CC2: Insight and an acknowledgement by the client that they need some help - commitment from them, and willingness to address some possibly difficult issues. For me, it helped to be able to talk to the psychologist before I made the referral.

CC3: Sometimes a client and their family are very keen to have CBT before a referral is even discussed. Sometimes the referral is suggested by the psychiatrist as a way to help with symptoms. If the client is open to advice or suggestions about what might help them. The fact that we now have psychologists around helps! It helps when psychologists bring the idea up in team meetings, and discuss whose clients might benefit from CBT.

CC4: That we now have a psychologist (we didn’t have one for a long time). That we have two, as well, so we can think about who might be the better fit for our client. I try to have an awareness of waiting lists for psychology input, so I might hold off a referral if they seem stretched. You need to check out the practical travel stuff – is the journey reasonable for the client? Also, it has helped when I take the client to the first appointment and introduced them to the psychologist and when the first meeting with the psychologist is a kind of low-pressure, short introductory session just to ask some questions. I think it really helps if we make it clear that it’s the client’s choice and that it’s ok to pull out if they want to.

CC5: The availability of resources in the first place – having that person or people to refer to. Also, how visible or accessible that person has made themselves, and how willing they are to take referrals. This varies across teams. In terms of practical considerations, there needs to be flexibility from the providing clinician - a client centred approach. Also, there needs to have been preparation work beforehand. The client needs to have engaged with the service before a referral will be successful, and have sorted (had help to sort) their basic living needs out – housing, benefits etc – and then they usually feel more positive about the service and you’ve hooked them in.

CC6: The patient needs to be motivated, needs to want the help. CBT and psychology are only appropriate for some people - psychological input is wasted on some people. Also, people have to be in the right place. What good is CBT if a person can’t walk, has no food in their fridge, no meds in their cupboard.

CC7: For me, I think it was being able to liaise with the psychologists, either in team meetings or one-to-one. For the client, I think it is about them having a certain degree of insight and an understanding of what psychological intervention is. Also, they have to be aware that it won’t be instant. It helps if they have realistic expectations of the process.

CC8: Having the psychologists within the team. Speaking to them before the referral. For clients, having a positive attitude – especially good if they request the help themselves.
CC9: Talking to the psychologist in the team beforehand – that’s a real advantage of having them within the team. For the client, if they have some psychological awareness. If they understand what the therapy’s about and the purpose and logic behind it. It’s important that they are willing to give it a try. It’s easier if a patient suggests it themselves, of course.

CC10: For me, it was about having an understanding of what the work would involve and how that complements the CPA [Care Programme Approach] procedure. For the client, it’s about getting them an understanding of what psychological therapy means. And the practical issues – transport and so on – need to be sorted out.

CC12: Discussion in team meetings helps, that it is a team decision. For clients, that they are interested and think they’re going to get some help. You always need to discuss it all properly with the client first.

CC13: Discussions with the psychologists beforehand, and the client understanding the referral. I explain why they should be having psychological input, in addition to their meds. Some people have requested psychological help.

CC14: Some people ask for it, which means they are very motivated in the first place. Sometimes if one of their friends is doing it or something they might be more likely to get on board. Because we had no psychologists for a while I think people get out of the habit of referring a bit really.

**Q2 - What do you think would make it more likely that clients with diagnoses of schizophrenia would (want to) accept a referral for psychological help/attend sessions?**

CC1: If it can be demonstrated that it would be useful for a client, that is helpful. Also, sessions need to be accessible for the client (times, locations etc).

CC2: Identifying the problem itself. Having a discussion with the client about it. I think it’s important for the client to be made aware that there will be support for them from the care coordinator during the process. An option to see CC more often during difficult periods and an option for more frequent reviews with the psychiatrist, again so that the client feels supported. Also practical issues – is the location of the meeting an easily accessible venue for the client, and is the timing good for them?

CC3: If the referral is presented to a client as something they could just try, and see what it’s all about. If they were allowed to just go to the first session or two to see what it’s like with a clear message that it would be ok if they decided it wasn’t for them – that they wouldn’t be hounded or made to feel they were messing the service about. Then it might be less daunting. Just basic encouragement/persuasion on the part of the CC helps I think. Transport help is another thing – if they don’t have their own transport they’d be more likely to go if they got help to get there.

CC4: We don’t question medication, we just refer. Maybe psychological input should be ‘prescribed’ in the same way as medications – people should be told to give it a try.

CC5: You always need to think about practicalities, especially with AOT clients. Many clients’ lives may be too chaotic at certain times for them to engage or stick with the sessions.
CC6: The referral needs to be sold well and also needs to be appropriate – staff need to make sure they are not just referring because of the numbers as this might not lead to successful outcomes.

CC7: Just what I said for the last question really.

CC8: Practical issues need to be considered – times of sessions, location, how a client will get there and so on.

CC9: Same things as mentioned in previous question.

CC10: For clients to get a sense of what’s in it for them, of how they might gain from it and how it might improve things in the direction they want them to go.

CC11: As I say, some insight and that the more practical side of their lives is sorted out.

CC12: Most clients will accept a referral I find, unless they are lacking insight.

CC13: The client seeing that meds alone are not enough, and understanding the reason for the referral.

CC14: If people start in groups, and this is a good experience, I think they are much more likely to be open to the idea of individual therapy. Maybe if there was a rolling programme of groups that clients were expected to take part in as part of being in the service? But then resources wouldn’t allow for that, I suppose. But anyway, groups seem to help to make the ideas and the way of working more familiar so I think that helps.

Q3 – What do you know about what the therapy (CBT for psychosis) would be like?

CC1: It would entail working with someone to understand their symptoms and finding better ways of coping with them.

CC2: I don’t know!

CC3: I have an appreciation of what CBT is like in general, but I don’t know about what form it would take when working with psychotic symptoms. When we were trained [this CC is a mental health nurse who trained 10 years ago], we were told that CBT was not suitable for people with psychosis. I only started to appreciate the importance of psychology work for psychosis recently.

CC4: I think it would include looking at a client’s voice’s – getting them to question whether they are real. To discuss, say, “you’ve had these for 20 years – so far, what’s the worst that has happened?”. I suppose it’s about moving towards acceptance that they’re there [the voices]. I would expect psychologists to be using all the skills they’ve got – the whole range.

CC5: I have had some training/teaching in CBT so I feel I know what I’m referring for.
CC6: It reduces anxiety and other problems. It helps people identify how their thinking affects other things. For someone with delusions though - CBT won’t work for them. They need medication to help with that.

CC7: CBT is like a common-sense/problem-solving approach to everyday stresses. It gives you strategies to cope better with your difficulties.

CC8: If you mean CBT for psychosis I’m afraid I don’t really know the details.

CC9: You would start with assessment to clarify the difficulties a client is having. In CBT for psychosis you are generally working with the beliefs and hallucinations – eliciting details about them, how they affect the client, how troubling they are and how much they believe them. Then it is about working out coping mechanisms and suggesting new options.

CC10: It’s about focusing on their symptoms – negative and positive. Looking at how people cope and working on strategies to manage symptoms (other than meds). Looking at the level of distress the client experiences. Do they have any insight? Also, looking at what the client wants to work on.

CC11: I don’t know. I don’t know the details really.

CC12: Working on making things easier for the client – coping better with their lives and their symptoms.

CC13: CBT for hearing voices and counselling to cope with symptoms generally.

CC14: Working on looking at people’s symptoms and how they are affected by them, and then teaching and thinking about ways to cope better with these.

Q4 – What do you know about the NICE recommendations for people with schizophrenia?

CC1: I do know that they recommend talking therapies – they’re quite high on the agenda. They’ve also recommended a global change in practice to reflect this.

CC2: I would know where to look for them on the web… I read them a long time ago but I guess I need to find time to look at them again.

CC3: Hmm.. I have the book somewhere...

CC4: I know that CBT is recommended and that talking therapies should be offered as an option.

CC5: I have a working knowledge of them, I think.

CC6: Clients should all be offered CBT. Family interventions should be offered where appropriate, and art therapies. They should have physical health checks once a year and should be put on the newer type of anti-psychotic meds.

CC7: Oh dear, I can’t remember…This is like an exam!
CC8: I don’t know as much as I should, I’m sure. Actually I wish NICE would go away!

CC9: They recommend individual CBT for psychosis, and family intervention where possible. They have dropped social skills and included Arts Therapies now I believe.

CC10: They include recommended medical treatments for schizophrenia. And CBT? I’m not sure of the details though...

CC11: What are they? I don’t know.

CC12: Compliance with meds – encouraging people to take them. And that people with difficulties should be encouraged to have CBT.

CC13: CBT is one of the things they recommend. And reducing meds if possible.

CC14: Oh, I can’t remember the details! We just have so many policies and procedures and guidelines it’s too hard to hold them all in mind while working with clients day to day I think.

Q5 – What do you think would help increase your knowledge of the NICE recommendations for schizophrenia?

CC1: A basic, brief booklet – a kind of ‘Idiot’s Guide’ to the guidelines!

CC2: If I looked on the internet, or asked NICE to send information on the Guidelines for the team. Maybe a short presentation or some teaching about them. Or printing out some basic information for each member of the team to have to refer to easily. At an earlier level in staff training it could be introduced – in teaching for the students etc.

CC3: To make sure I do the reading. Teaching/education sessions on them, and refresher sessions now and then. A team discussion or informal chat about them and how they fit in with our clients.

CC4: I don’t think we need to really. We can’t work round guidelines, we have to work with what we’ve got.

CC5: There are variances in knowledge across our team. I think we are all aware that the guidelines underpin our daily practice. Maybe using education, reflection and sharing our knowledge would help. Also, professional groups and workshops can be useful places to discuss topics like this so maybe to include it there.

CC6: We all need to read them again. Copies of them could be available in the team, and they could be brought up in meetings now and again to keep them in our minds.

CC7: If I read them! Also, maybe we could have an education meeting on them.

CC8: Maybe a presentation to refresh our memories I suppose.

CC9: We could add them to the academic meetings I suppose, it would be easy enough to do. And some general discussion of schizophrenia perhaps. I think the discussions are helpful.
CC10: A presentation maybe. Looking at ‘how relevant are these NICE guidelines to our day to day practice?’. ‘Are there targets we should be meeting, and should we be reviewing that?’

CC11: You have to explain to a client in what way the work would be helpful to them. They need to have a certain amount of insight. Once they have some insight you can achieve much more and can work alongside them. It doesn’t work when clients are more chaotic, it needs to be when their lives are a bit more in control.

CC11: I don’t know. A presentation or education meeting – we can learn a lot in 20 minutes.

CC12: I don’t know really.

CC13: I don’t know. Looking at them again! But they’re so huge, none of us have the time for that realistically.

CC14: A simplified summary of them stuck up somewhere I suppose? Maybe a short presentation? I’m not sure.
Evidence showing SRRP results were fed back to the Service

Surrey and Borders Partnership NHS
NHS Foundation Trust

12th November 2010

Dear Liz

Re: NICE Guidelines Project

I am writing to thank you for carrying out your service related research project at our service, which looked at adherence to the NICE Schizophrenia Guidelines regarding psychological interventions.

This letter confirms that you have fed back your findings to the service following this research.

May I take this opportunity to wish you all the best for your chosen career path.

Yours Sincerely.

Service Manager
Major Research Project

An Investigation of Factors Associated With Health Anxiety in a Non-Clinical Sample

Year Three

July 2012
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Abstract

Background and rationale
Unlike many other anxiety disorders, health anxiety has received relatively little attention in research until recently. Further research is required to better understand this difficulty, and thereby improve clinical interventions designed to address it. Substantial over-lap has been proposed between health anxiety and obsessive-compulsive disorder, and this link was utilised to identify a number of factors worthy of exploration with respect to health anxiety.

Method
This study investigated how worry, intolerance of uncertainty, self-ambivalence and attachment insecurity were related to health anxiety. It also explored mediating relationships between these factors, based on a theoretically informed understanding of how they may be related. The study employed a correlational, cross-sectional design and had a non-clinical sample. A web-based survey was completed by 249 participants. The sample was predominantly female (81.5%) and had a mean age of 23.1 (SD=6.4).

Results
Intolerance of uncertainty was found to be a predictor of health anxiety after mood was controlled for. In addition, the relationship between these variables was found to be mediated by worry. A relationship between self-ambivalence and health anxiety was found, and this was shown to be mediated by intolerance of uncertainty. A relationship between attachment insecurity and health anxiety was not found at the .05 significance level. Attachment insecurity was found to be related to intolerance of uncertainty, and this relationship was shown to be mediated by self-ambivalence.

Discussion
The results are discussed in the context of previous findings. The role of intolerance of uncertainty in particular is considered, as analyses suggest it is both correlated with and a predictor of health anxiety. The relevance of the study findings to a transdiagnostic approach to treating anxiety is discussed. Methodological limitations of the study, areas for future research and clinical implications of the results are also considered.
Introduction

Health Anxiety

Concerns about health, and thoughts and behaviours relating to these, are a normal part of the human experience. For the majority of individuals, health-related thoughts are highly adaptive - they lead to healthy behaviours. However, for a minority of people, worries about health become excessive and problematic.

Health anxiety can be defined as significant and persistent anxiety relating to one's health. It generally entails distracting thoughts, mood changes and behaviours such as checking for bodily signs and symptoms, frequent searching for medical information (e.g. in books and on the internet) and seeking reassurance from others.

Many contemporary researchers working in this field consider there to be a spectrum of severity in cases of health anxiety, and that those more clinically severe examples would also be described by some mental health professionals as cases of hypochondriasis (e.g. Abramowitz, 2008; Salkovskis et al., 2003; Williams et al., 2010). The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994) defines hypochondriasis as "a preoccupation with fears of having, or the idea that one has, a serious disease based on the person's misinterpretation of bodily symptoms" which "persists despite appropriate medical evaluation and reassurance".

Health anxiety can affect several areas of an individual's life. As well as preoccupation and worry, it can entail high levels of distress and impair functioning related to work, social life and family relationships. In addition, it has societal level implications due to higher use of health care resources (Barsky et al., 2005) and higher levels of sickness absence. Prevalence rates of health anxiety have not been well investigated but based on the findings available they are estimated to be between 3% and 6% of the general population (Bleichhardt & Hiller, 2007; Escobar et al., 1998). In medical clinic settings,
estimates are often higher - between 4% and 20% (Barsky et al., 1990; Seivewright, 2004; Tyrer, 2011).

**Current treatment approaches**
The most common method of intervention in tackling health anxiety and hypochondriasis currently is cognitive-behavioural therapy (CBT; e.g. Looper & Kirmayer, 2002; Salkovskis, 2003; Williams, 2004). CBT has been shown to be effective in reducing symptoms of health anxiety and health care use and increasing function (e.g. Barsky & Ahern, 2004; Marcus et al., 2007; Visser & Bouman, 2001). However, despite successful treatment outcomes for some individuals with health anxiety, these studies show that current approaches are not beneficial for all those experiencing this problem. A recent systematic review reported that the recovery rate from hypochondriasis/severe health anxiety is only 30-50% (olde Hartman et al., 2009) and drop out rates from treatment are often high (e.g. 25% in a study by Greeven et al., 2007).

It is argued in this thesis that current models of health anxiety do not provide a comprehensive enough picture of this difficulty, and that further theorising and research into this area is needed. This would allow a better understanding of this complex problem, which in turn should enable alternative interventions to be designed and trialled. Abramowitz (2008) points out that health anxiety has only recently begun to receive substantial research attention, and that further exploration of the variables associated with the problem is needed.

**Theoretical Understanding of Health Anxiety**
Currently, hypochondriasis is classified as a 'somatoform disorder' (DSM-IV-TR; American Psychiatric Association, 2000), rather than with the anxiety disorders. It is not Yet clear how hypochondriasis might be classified in the upcoming revision of Diagnostic and Statistical Manual of Mental Disorders (DSM-5). However, many researchers now choose to view health anxiety and hypochondriasis (severe health anxiety) as belonging within the broader field of anxiety disorders in general. For a condition in which research thus far is limited, this approach is advantageous as it allows what is known about other
anxiety disorders to provide guidance on potential areas of investigation for health anxiety.

Obsessive-compulsive disorder (OCD), in particular, has been found to have significant overlaps with health anxiety, both in terms of phenomenology and possible underlying mechanisms involved in the aetiology and maintenance of the problem (e.g. Björgvinsson et al., 2007; Deacon & Abramowitz, 2008; Salkovskis, 1996; Sulkowski et al., 2011; Wheaton et al., 2010). The present study aims to build on knowledge about links between these two disorders to enable further understanding of health anxiety beyond current cognitive-behavioural models. In addition to discussion of current theoretical understanding of health anxiety, links with OCD will therefore also be considered and potentially relevant findings in this field will be introduced.

Cognitive-behavioural theory of health anxiety
The current dominant model for understanding health anxiety is cognitive-behavioural, as demonstrated by its primary role in the majority of intervention approaches used in clinical settings. Early proponents of this approach include Clark (e.g. Clark et al., 1998) and Salkovskis (e.g. Salkovskis, 1996 and 2003). Later researchers have built up understanding around this work, so it is valuable to consider it in some detail.

The cognitive-behavioural understanding of health anxiety suggests that bodily signs, symptoms and innocuous variations in sensation are misinterpreted – they are appraised as indicators of a serious threat to a person’s health. In addition, the individual is likely to perceive themselves as unable to cope with this threat – to be helpless to prevent the health threat (illness or disease) from taking its course.

Salkovskis (1996; 2003) describes the key factors theorised in the cognitive-behavioural model to be involved in the development and maintenance of health anxiety. Figure 1 illustrates some of these factors. They include:
- **Altered focus of attention.** Increased checking for signs and symptoms can lead to normal variations in bodily sensations being perceived as novel and misinterpreted as indicators of illness or disease. In addition, individuals may be hyper-vigilant to information regarding illness in the media and in conversation with others (including friends, family and medical professionals).

- **Increased physiological arousal.** This occurs as a normal physical reaction to experiencing fear or threat-related thoughts, but these bodily changes are often misinterpreted as further evidence of a physical problem.

- **Avoidant/safety-seeking behaviours.** These are behaviours designed to reduce the anxiety experienced when thoughts about the illness threat appear and include body checking (e.g. taking blood pressure, feeling for lumps), visiting the doctor/requesting tests, and seeking reassurance from health professionals or friends and family. Salkovskis notes that in OCD, behaviours with a similar intended role and resultant effect can be seen. In both disorders, the behaviours are understood to be negatively reinforcing - the short-term relief they provide is at the expense of a longer-term increase in anxiety and preoccupation.

![Figure 1: Cognitive-behavioural model of the development and persistence of health anxiety/hypochondriasis (from Salkovskis et al., 2003; p.357)](image-url)

**Figure 1:** Cognitive-behavioural model of the development and persistence of health anxiety/hypochondriasis (from Salkovskis et al., 2003; p.357)
Current understanding of health anxiety within the cognitive-behavioural paradigm retains much of the content of these early models, but these are being built upon with new understanding. One of the areas researchers have begun to investigate more recently is that of belief domains or cognitive biases. These are hypothesised to be broader sets of beliefs or ways of thinking which may be seen to underlie the specific beliefs and thoughts of which an individual may be conscious, and which play a powerful role in their difficulties.

In a paper referring to the outcome of discussions in a "Health Anxiety Working Group" (of researchers studying health anxiety), Abramowitz (2008) presented a list of domains of cognition and behaviour believed by the group to contribute to the development and maintenance of severe health anxiety. Table 1, below, is taken from this paper (Abramowitz, 2008; p.85).

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<td>• Overestimates of the severity of negative health outcomes (e.g., &quot;I probably have the most severe form of cancer&quot;)</td>
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<tr>
<td>• Overestimates of the probability of negative health outcomes (e.g., &quot;serious illnesses are lurking everywhere&quot;)</td>
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<td>• Vague beliefs about one's own general health status (&quot;my vestibular system is damaged&quot;)</td>
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<td>• Dysfunctional beliefs about physicians and the validity of medical tests (which could lead to misinterpretations of medical results; e.g., &quot;If the doctor only spends 20 minutes with me, he would not know if I have a serious disease&quot;)</td>
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<td>• Exaggerated beliefs about the importance of health-promoting behaviors (e.g., &quot;If I don't exercise every day, I'll become ill&quot;)</td>
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<td><strong>Health anxiety–relevant domains of safety-seeking behaviors</strong></td>
</tr>
<tr>
<td>• Checking for assurances from external sources (e.g., doctors, Internet, family, books)</td>
</tr>
<tr>
<td>• Body checking (e.g., taking blood pressure, feeling for lumps, inspecting excretions)</td>
</tr>
<tr>
<td>• Avoidance of cues (e.g., hospitals, cancer floors, funerals, programs about cancer)</td>
</tr>
<tr>
<td>• Avoidance of appropriate health behaviors (e.g., breast self-exams, checkups)</td>
</tr>
</tbody>
</table>
Following the approach of looking at areas linking health anxiety with OCD, this table can be seen to demonstrate where some of these areas may lie. Although most of the specific beliefs shown are only relevant to health anxiety, many of the belief domains listed can be seen to be relevant to both disorders. One in particular – ‘intolerance of uncertainty’ – has been shown in several studies to be associated with both these anxiety problems and appears worthy of further exploration. A description of this cognitive bias and the findings of relevant previous studies are summarised below.

Intolerance of uncertainty

Through their exploration of health anxiety and hypochondriasis within the broader field of anxiety disorders, Abramowitz and colleagues have found significant similarities between OCD and health anxiety (e.g. Deacon & Abramowitz, 2008). They point out that similarities in the symptoms or phenomenology of disorders (clearly present between health anxiety and OCD) do not necessarily indicate similarities in the underlying mechanisms of the disorders. However, their investigations identified a key psychological process underlying both these conditions.

In their most recent published study (Deacon & Abramowitz, 2008), the participants in the OCD and hypochondriasis (severe health anxiety) groups exhibited elevated and comparable levels of ‘intolerance of uncertainty’.

From a symptomatic perspective, both health anxiety and OCD entail compulsive checking (generally used as a safety-behaviour, aimed at reducing anxiety). In health anxiety this may include checking of the body or of lists of symptoms of diseases. In OCD it may involve checking that one has locked a door, or retracing a journey to make sure no-one has been run over. Compulsive checking is thought to be an attempt to rid oneself of doubt – to attain certainty (Rachman, 2002). In some sub-types of OCD (e.g. when intrusive thoughts are about the need to prevent future harm) and in most examples of health anxiety, it is not possible to be absolutely certain that a feared outcome has or will not occur. If an individual is intolerant of being in a state of
uncertainty, it is therefore hypothesised that they are more likely to feel high levels of anxiety in such situations and be motivated to engage in safety-seeking or reassuring behaviours.

The findings from Deacon & Abramowitz's (2008) study suggest that intolerance of uncertainty may be a significant cognitive bias involved in the development and/or maintenance of both health anxiety and OCD. Though this was the first study to look at intolerance of uncertainty, OCD and (severe) health anxiety concurrently, its findings are supported by several other studies showing a relationship between intolerance of uncertainty and OCD (e.g. Gentes & Ruscio, 2011; Holaway et al., 2006; Mancini et al., 2002; Tolin et al., 2003) and further studies showing a relationship between intolerance of uncertainty and health anxiety/hypochondriasis, described below.

Abramowitz et al. (2007) and Fergus & Valentiner (2011a) found an association between intolerance of uncertainty and health anxiety in non-clinical samples. In addition, results from the second study showed that intolerance of uncertainty moderated the relationship between catastrophic health appraisals and health anxiety - that is, only for the participants exhibiting high levels of intolerance of uncertainty were catastrophic health appraisals associated with health anxiety. This study employed a scenario-based measure which assessed the tendency to attribute ambiguous body sensations and symptoms to either catastrophic health concerns (i.e. to make catastrophic health appraisals) or minor health concerns (i.e. to make minor health appraisals).

These findings provide support for the hypothesised role of intolerance of uncertainty as a cognitive bias underlying some of the key mechanisms involved in health anxiety. Fergus & Valentiner's (2011a) study in particular illustrates clear examples of what might be described as misinterpretations of bodily sensations (as signifiers of serious health issues) which were found to co-occur with higher levels of intolerance of uncertainty.
One of the first introductions of the concept of intolerance of uncertainty occurred within the context of trying to account for why people worry (Freeston et al., 1994). Worry can be defined as "concern about future events in which there is uncertainty about the outcome and where the individual experiences feelings of anxiety" (Bhur & Dugas, 2002, p. 931) and is considered to entail repetitive thinking about these concerns. Excessive worry about one's health is a key component of health anxiety. It might therefore be hypothesised that it is partly through encouraging a tendency to worry that intolerance of uncertainty manifests itself in the symptoms and subjective experience of people with health anxiety. Several researchers have shown that worry is associated with intolerance of uncertainty (e.g. de Jong-Meyer et al., 2009). In addition, Yook et al. (2010) found that worry partially mediated the relationship between intolerance of uncertainty and general anxiety in a clinical sample. It is not yet known whether this might also be the case for the more specific problem of health anxiety.

The theoretical understanding of an (unconscious) cognitive bias such as intolerance of uncertainty is that it is effectively 'dormant' within an individual until they are in a situation (or experience a trigger) which 'activates' it. At such times its effects can be seen through changes in the thoughts, emotions or behaviours of the individual. For intolerance of uncertainty, ambiguous situations appear to be particularly 'activating'. Thus, as described earlier, any situation in which it is not possible to achieve a position of certainty about something potentially threatening to an individual (a situation which occurs regularly in health anxiety and OCD) is likely to be experienced as highly anxiety-inducing. An area of potential value in building a better understanding of health anxiety is to consider what makes an individual prone to developing cognitive biases such as intolerance of uncertainty in the first place.

An area of recent interest and research in the OCD field has involved investigating potential 'meta-vulnerabilities' which may make individuals more likely to hold cognitive biases. Bhar & Kyrios (2007) have suggested that 'self-ambivalence' may be a meta-vulnerability for the cognitive biases seen in OCD,
which would include intolerance of uncertainty. In the following section this construct will be considered in more detail and its potential relevance to health anxiety will be discussed.

**Self-ambivalence**

Self-ambivalence, as discussed, is postulated as a meta-vulnerability for OCD - as a construct which may account for the emergence and maintenance of the symptoms and beliefs commonly observed in individuals with this disorder (Bhar & Kyrios, 2007; Guidano & Liotti, 1983). Although the concept and possible role of self-ambivalence was first formulated in the early 1980s, it did not become the focus of interest and research until more recently, but does appear to be relevant to OCD and potentially also to health anxiety, as discussed below.

The proposed theory suggests that a meta-vulnerability such as self-ambivalence may underlie some or all of the vulnerabilities thought to be implicated in a disorder, which in turn account for the specific thoughts experienced, beliefs held and behaviours carried out. The term vulnerabilities in this context refers to what may also be described as cognitive biases or belief domains. An individual is unlikely to be consciously aware of a meta-vulnerability (unless, for example, they have received some therapeutic intervention), as it is not hypothesised to operate at a conscious level.

Table 2 shows the list of belief domains identified by the 'Health Anxiety Working Group' quoted in Abramowitz's (2008) recent article on the left, and the belief domains identified as vulnerabilities for OCD on the right (Obsessive-Compulsive Cognitions Working Group (OCCWG), 1997).

It is clear that several of the domains noted in the two groups are either identical or closely related. This extent of overlap in the vulnerabilities hypothesised to be relevant in these disorders suggests that a potential overlap in a meta-vulnerability, in this case self-ambivalence, is worthy of investigation.
Table 2: Belief domains/vulnerabilities proposed as relevant to the development and/or maintenance of health anxiety and OCD

<table>
<thead>
<tr>
<th>Health anxiety relevant belief domains (Abramowitz 2008)</th>
<th>OCD relevant belief domains (OCCWG, 1997)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Anxiety sensitivity</td>
<td>• Over-estimation of the likelihood of threat</td>
</tr>
<tr>
<td>• Disgust sensitivity</td>
<td>• Beliefs about the necessity to control negative thoughts</td>
</tr>
<tr>
<td>• Injury/illness sensitivity</td>
<td>• Beliefs about the negative meanings of thoughts</td>
</tr>
<tr>
<td>• Beliefs about the importance of intrusive thoughts (esp. health-related thoughts)</td>
<td>• Intolerance of uncertainty</td>
</tr>
<tr>
<td>• Intolerance of uncertainty</td>
<td>• Perfectionism</td>
</tr>
<tr>
<td>• Perfectionanism</td>
<td>• Inflated sense of personal responsibility</td>
</tr>
<tr>
<td>• Exaggerated sense of responsibility</td>
<td></td>
</tr>
</tbody>
</table>

In consideration of OCD, Kempke & Luyten (2007) also point out that the belief domains observed in this disorder are often highly inter-correlated, which may be suggestive of a meta-vulnerability underlying several of them. It is possible that this may also be the case for health anxiety, as again several belief domains appear to be inter-linked.

In their description of a defining feature of self-ambivalence, Guidano & Liotti (1983) describe an 'unsolvable dilemma' of perfectionism versus reality. They suggest that individuals with a diagnosis of OCD appear to engage problem-solving strategies which indicate an underlying belief that “perfection and certainty are possible in the relationship between human beings and reality” (p.255). It is proposed in this thesis that such an understanding may also be pertinent to the conceptualisation of health anxiety. To explore this possible link also responds to the call of researchers in the cognitive-behavioural field to further investigate 'the need for certainty and perfection' and how it relates to health anxiety (Wheaton et al., 2010, p.567).
Within the current understanding of OCD, an underlying 'belief' that it is possible to be perfect and/or certain offers a potential rationale for many of the intrusive thoughts and compulsive behaviours observed. In health anxiety, while perfectionism and intolerance of uncertainty are both proposed vulnerabilities (see Table 2), the specific thoughts and behaviours observed appear particularly to be related to certainty. That is, an underlying 'belief' (or meta-vulnerability) that it is possible for human beings to have a certain relationship to reality may explain several features of health anxiety. These include:

- the continued search to obtain certainty that one does not have an undetected serious illness
- the belief that it is possible (and necessary) to be absolutely certain that one does not currently and will not imminently have a serious illness

Guidano and Liotti also suggest that the compulsive behaviours seen in OCD are effectively a 'false solution' to the proposed 'unsolvable dilemma'. It is possible to apply the same understanding to the behaviours frequently observed in health anxiety. Attempts at solving the proposed dilemma are referred to as 'false' because they do not solve it in the long-term. The dilemma is inherently unsolvable, but someone believing (albeit on an unconscious level) that it is (and that in fact, it must be solved) may experience very high levels of anxiety in the face of not being able to solve it - that is, not being able to feel absolutely certain about something it is impossible to be certain about. The 'false solution' provides a temporary fix which reduces the high levels of anxiety and helplessness experienced in the short term. In health anxiety these 'false solutions' may include repetitive body and symptom checking, referring to medical books or the internet, reassurance seeking, requests for medical appointments etc.

Another key feature of self-ambivalence relates to having an essentially binary view of what one's self or the world is like. Akin in some ways to what is referred to in CBT as 'all-or-nothing' thinking, the manifestation of this belief in
people with OCD might be, for example, believing one is either perfect or imperfect, either good or bad, but not anywhere in between. In health anxiety, this tendency might be observed in the position individuals take with relation to their health or their certainty about it. That is, if a person with health anxiety does not feel certain enough that they are healthy, then they must conclude they are unhealthy, which is an anxiety-inducing position – motivating the individual to do whatever they can to try to establish which of these (only two) options is the case.

At the core of self-ambivalence as proposed by Guidano & Liotti (1983) and Bhar & Kyrios (2007) is an ambivalence about the self – about whether an individual is worthwhile, loveable, moral or not. It is clear to see how holding this position with respect to oneself could give rise to many of the difficulties observed in OCD. In health anxiety, it may be less clear. However, the influence of the 'unsolvable dilemma' proposed to be part of self-ambivalence appears to have a good fit with the symptoms and current cognitive-behavioural understanding of health anxiety, and therefore warrants further investigation.

In addition, previous research into self-ambivalence has not provided clear results regarding OCD and anxiety in general. Bhar & Kyrios (2007) administered the 'Self-Ambivalence Measure' (SAM; Bhar & Kyrios, 2007) to four groups: two clinical groups (one comprising people with a diagnosis of OCD and one comprising people with a variety of other anxiety disorders) and two non-clinical groups (an undergraduate group and a community control group). Findings showed the OCD group scored significantly higher on the self-ambivalence measure than the non-clinical groups, but did not differ significantly from the mixed anxiety group.

Bhar and Kyrios note that their findings did not yield a clear answer as to whether self-ambivalence is specific to OCD, or is relevant to anxiety disorders in general. They also note that fragility in self-concept has been found in other anxiety disorders. The inconclusive results of this study suggest that further research into a possible role for self-ambivalence in anxiety disorders other than OCD is advisable.
It is speculated that self-ambivalence may develop as a result of attachment insecurity (Guidano & Liotti, 1983). The theory suggests that inconsistent messages from a child’s caregiver about their worth, lovability, trustworthiness etc. may become organised into an ambivalent and uncertain attitude towards the self, and perhaps also the world and other people. If self-ambivalence has a role to play in health anxiety, it could be speculated that attachment difficulties may also be related. More generally, in the search for approaches and information to improve understanding of health anxiety, the role of relational or developmental issues may be important. Consideration of some of the manifestations of health anxiety, such as continued reassurance-seeking from friends, family and health professionals (often coupled with an inability to feel reassured for any length of time) would also suggest a possible relational aspect to the problem.

In the OCD field, approaches combining cognitive-behavioural and psychodynamic theory, particularly object relations, have proved fruitful (e.g. Kempke & Luyten, 2007), and researchers have also looked specifically at attachment difficulties. The following section begins with a broad overview of attachment and moves on to consider what might be learnt from the OCD research in this area, and finally reviews findings about attachment and health anxiety/hypochondriasis.

**Attachment and health anxiety**

**Attachment**

An individual’s attachment style is believed to develop through the internalisation of early experiences, particularly those with their primary caregivers (e.g. Bowlby, 1969, 1973; Guidano & Liotti, 1983). The attachment system motivates a child to seek closeness, comfort and care from their primary caregiver, and based on their experiences the child is believed to form 'internal working models' of themselves and others which eventually come to inform future beliefs and behaviour (Mikulincer & Shaver, 2007).
Adult attachment research has shown that the attachment system remains active and impacts on psychological functioning throughout an individual's life (e.g. Dozier et al., 1999; Mikulincer & Shaver, 2007). In addition to affecting a person's close relationships, the attachment system is believed to have a bearing on how stress is managed and how emotional distress is regulated. Problematic attachment style is considered to contribute to vulnerability to a wide range of difficulties, including depression and the primary anxiety disorders (e.g. Doron et al., 2009; Mikulincer & Shaver, 2007; Safford et al., 2004).

Adult attachment style is often measured in terms of two dimensions: attachment-related anxiety and attachment-related avoidance (e.g. Brennan, et al., 1998; Fraley, et al., 2000). Figure 2 shows how these dimensions are hypothesised to relate to attachment style. An individual's position on the anxiety dimension tends to indicate to what extent they worry about the availability and reliability of a relationship partner, while their position on the avoidance dimension is thought to indicate to what extent an individual is comfortable with (and perhaps interested in) being in a close and interdependent relationship with a partner. A prototypical 'secure' adult is thought to be low on both of these dimensions.

Figure 2: A two-dimensional model of adult attachment
Although postulated to develop in relation to attachment difficulties, self-ambivalence has not been specifically operationalised - either by Guidano & Liotti (1983) or later researchers - within current theoretical attachment frameworks. However, it is understood to be broadly related to insecure attachment and inconsistent messages from caregivers during development. It might therefore be speculated to be related to one or both of the attachment security dimensions shown in Figure 2.

**Attachment and OCD**

Within the broad field of attachment theory and research, it is helpful to review how findings relating to OCD might inform thinking about the development and maintenance of health anxiety. A brief review of recent findings relating attachment to OCD is therefore presented here.

Several studies have found significant links between attachment difficulties and the presence of OCD. Doron et al. (2009), for example, investigated whether a ‘dysfunctional’ (insecure) attachment orientation may be an underlying factor contributing to the belief domains operating in OCD. Their findings provided support for a mediational model, in which insecure attachment was related to OCD symptoms via OCD-related cognitions. Vogel et al. (2000) found that individuals with OCD scored more highly than a non-clinical control group on attachment-related scales (measuring concerns about disapproval, separation and attachment).

Similarly, Cooper et al. (1998) showed that attachment insecurities were linked with a higher likelihood of reporting OCD and other anxiety symptoms in a large sample of adolescents. A further study by Myhr et al. (2004) found that individuals with OCD and depression showed significantly greater attachment insecurity than those without these difficulties.

These studies suggest the presence of an association between attachment insecurity and the occurrence of OCD symptoms in a range of samples, and support previous broader findings that attachment appears to be related to
mental health difficulties in general (including depression, anxiety and OCD). These studies are limited by their cross-sectional designs, however, so they cannot provide support for further speculation about the role of attachment in the development of these difficulties.

Given the evidence for fundamental links between OCD and health anxiety described earlier in this introduction, these findings also provide a good rationale for exploring the relationship between health anxiety and attachment. In the next section, current research relating more specifically to this area will also be considered.

**Attachment, health anxiety and hypochondriasis (severe health anxiety)**

A survey of the relevant literature suggests that the relationship between the broader spectrum of health anxiety and attachment styles has yet to be investigated. However, a small number of studies have looked at associations between attachment and hypochondriasis (conceptualised in the present study as severe health anxiety). Attachment theory is also proposed as a useful framework for understanding the role of developmental experience and interpersonal relationships in the emergence and maintenance of health-related behaviours.

A study conducted by Schmidt *et al.* (2002) investigated the relationship between reported physical symptoms, hypochondriacal concerns and attachment styles. They found the highest levels of symptom reporting and hypochondriacal features were associated with two insecure attachment styles. These two groups were referred to as the 'anxious/fear of loss' group (resembling a high anxiety attachment style in the Brennan *et al.* (1998) model) and the 'anxious/distrustful' group (resembling a high avoidant style in the Brennan model). Those in the sample found to have secure attachment styles, as would be predicted, displayed the lowest levels of physical symptoms and hypochondriacal features.
Wearden and colleagues (2006) also found a link between adult attachment style and hypochondriasis. In a survey of undergraduate students they found that individuals with a 'preoccupied' attachment style (related to high attachment anxiety) scored significantly higher on a measure of hypochondriasis than those with other attachment styles.

Developed through a consideration of developmental perspectives and the role of attachment, Stuart & Noyes (1999) and Noyes et al. (2002) have put forward an interpersonal model of hypochondriasis. In their 1999 paper they report the findings of a review of the research on the influence of childhood experiences, personality and adult social relating on somatoform disorders (which under current classifications include hypochondriasis). From these data, they hypothesised that somatising patients display anxious attachment behaviour deriving from early experiences with caregivers, especially if they were exposed to illness at a young age. Stuart and Noyes suggest that as adults, 'somatisers' (which would include people who meet the criteria for a diagnosis of hypochondriasis) use physical complaints to elicit care.

In the second of these studies, Noyes et al. (2002) found that level of hypochondriacal symptoms was correlated with separation anxiety in childhood (a factor which is likely to be related to attachment difficulties). In addition, a further paper (Noyes et al., 2003) reported that hypochondriacal and somatic symptoms were found to positively correlated with all three of the insecure attachment styles ('preoccupied', 'dismissing' and 'fearful') in patients attending a general medical clinic. Hypochondriasis was also found to be positively correlated with self-reported interpersonal problems, and negatively correlated with patient ratings of satisfaction with, and reassurance from, medical care staff.

Finally, Hunter & Maunder (2001) point out that ill health or the need for medical/surgical input can be considered as a significant stressor, and might therefore be likely to activate individuals' attachment systems. It might also be argued that in health anxiety and hypochondriasis, the presence of fears or
beliefs that a person has a serious illness (even if this is not the case) are likely to have a similar effect - to activate the attachment system. Hunter and Maunder suggest that in a health-related situation, insecurely attached individuals may be less likely to have confidence in their own ability to cope with illness. This proposal links with the cognitive-behavioural view of health anxiety (Salkovskis et al., 2003), in which an under-estimation of a person's ability to cope plays a role in the maintenance of their difficulties.

In summary, these studies suggest a possible link between attachment difficulties and anxiety relating to health. Tentative support for the role of deeper-level psychological 'structures' or 'working models' in health anxiety can be found within a small number of studies and theoretical papers, both within the health anxiety field and in the related field of OCD. However, there is clearly a need for more research into these areas.

Theoretically, attachment insecurity may have a role in the aetiology and maintenance of health anxiety, although this relationship has as yet only been looked at in severe health anxiety (hypochondriasis) and only using cross-sectional study designs. Given the occurrence of health anxiety in the community, a large-scale non-clinical sample would allow a broader range of levels of health anxiety to be examined with respect to attachment, and might therefore add to the current research findings in this field.

**Study hypotheses**

In this introduction, three main constructs have been proposed which may be understood as vulnerabilities/meta-vulnerabilities for the key beliefs and behaviours observed in health anxiety. These constructs are intolerance of uncertainty, self-ambivalence and attachment insecurity. These variables, their association with health anxiety and their inter-relationships will therefore be investigated in the present study.
Main hypothesis:

1) Intolerance of uncertainty, self-ambivalence and attachment insecurity will be (a) positively correlated with; and (b) predict variance in health anxiety.

Mediating relationships:
Evidence for an association between health anxiety and intolerance of uncertainty has been found in several previous studies. In addition, worry has been observed to be related to intolerance of uncertainty, and to have a mediating role in the relationship between intolerance of uncertainty and anxiety in general. It therefore seems worthwhile to explore whether worry might also mediate the relationship between intolerance of uncertainty and health anxiety in the present study's non-clinical sample:

2) The relationship between intolerance of uncertainty and health anxiety will be mediated by worry

Given the theoretical proposal that self-ambivalence will be positively correlated with health anxiety and that it constitutes a meta-vulnerability for intolerance of uncertainty, coupled with the empirical observation that intolerance of uncertainty is positively correlated with health anxiety:

3) The relationship between self-ambivalence and health anxiety will be mediated by intolerance of uncertainty.

Finally, it has been theorised that the development of self-ambivalence may result from attachment difficulties, and self-ambivalence is also proposed to have a role as a meta-vulnerability for intolerance of uncertainty. It is therefore hypothesised that:

4) The relationship between attachment insecurity and intolerance of uncertainty will be mediated by self-ambivalence.
Method

Design
This study employed a cross-sectional, correlational design. Self-report questionnaire measures were used to collect data from participants through a web-based survey platform (Sawtooth Survey Software, 2011 version) hosted by the University of Surrey. Correlation, regression and mediation analyses were used to investigate relationships between the variables.

Participants

Recruitment
Participants were recruited through an invitation e-mail (shown in Appendix A). Under- and post-graduate students at the University of Surrey were invited to take part. This sample was selected due to the dimensional conceptualisation of health anxiety and the fact that it was likely to have differing levels of severity in a non-clinical sample. An incentive was offered in the form of a prize draw for participants who completed the survey.

Sample
An a priori power analysis was conducted to calculate the minimum sample size required for two-tailed tests of the study hypotheses, using G*Power version 3.1 (Faul et al., 2007). Values used in the calculation were: power = 0.8; α = 0.05.

The minimum sample size required to detect a medium effect size using correlation analyses (r = 0.3; Cohen, 1969) was found to be 82 participants. For a regression analysis with three predictors, to detect a medium effect size (R² = 0.13; Clark-Carter, 1997), the minimum sample size was found to be 80. However, for mediational analyses Fife-Schaw (2012) suggests a sample of at least 200 is required.
During the data collection phase, 272 surveys were submitted online. The data from 23 participants were removed from the data set because these individuals had not completed the full survey, and participants had been advised if they withdrew from the survey early their data would not be used. The final study sample of participants who completed the full set of measures was therefore 249. This sample size provided an acceptable level of power for the planned analyses.

Demographic data describing the sample are presented in the Results section of this report.

**Measures**

A range of basic demographic data was collected from each participant, including gender, age, ethnic background, education and employment status (see Appendix B). Six established measures were included in the survey. Details of these are given below, and the full measures are shown in Appendices C-H.

**Health Anxiety**

Health anxiety was measured using the Short Health Anxiety Inventory (SHAI; Salkovskis *et al.*, 2002). This is a self-rated measure of health anxiety designed to be sensitive across the full range of intensity of symptoms (from mild concern to frank hypochondriasis), so is suitable for a non-clinical sample. It was also chosen as it was designed to differentiate individuals experiencing hypochondriasis and health anxiety from those with other anxiety disorders (e.g. panic disorder, social phobia) and people who are physically ill (but not excessively concerned about their health).

This measure has been shown to have good internal consistency (Cronbach's $\alpha = .89$) and divergent validity (individuals with hypochondriasis/health anxiety scored significantly higher than both anxious and non-anxious control groups; Salkovskis *et al.*, 2002). It was developed from a longer scale which also showed good convergent validity (correlating with clinician's ratings of health anxiety, $r=.85$).
The main SHAI scale has 14 items. There is also an additional 4-item 'negative consequences' scale which was developed at the same time as the main scale. Some researchers use only the main 14-item scale, and others also include the extra 4-item scale (making an 18-item instrument). However, the additional 4-item sub-scale is not thought to assess health anxiety directly (Alberts et al., 2011). Salkovskis et al. (2002), creators of the scale, describe the SHAI as a 14-item scale, and Salkovskis and colleagues tend to use this version in research (e.g. Tang et al., 2007). The 14-item main scale was therefore chosen for the present study.

Items in the SHAI consist of four statements and the respondent is required to choose the one which best describes their feelings over the past six months. For example:

a) I do not worry about my health
b) I occasionally worry about my health
c) I spend much of my time worrying about my health
d) I spend most of my time worrying about my health

Scores of 0-3 are given according to the answer selected, with a higher score representing higher levels of health anxiety.

Due to an administrative error during the set-up of the present study, only the first 10 items of the 14-item scale were included in the survey. Steps taken to manage this error are discussed in the Results section of this report.

**Intolerance of Uncertainty**

Intolerance of uncertainty was measured using the Intolerance of Uncertainty Scale (IUS; Freeston et al., 1994). This scale was designed to assess emotional, cognitive and behavioural reactions to ambiguous situations, attempts to control the future and implications of not being certain. A high score on the IUS is thought to indicate that an individual views uncertainty as negative and
unacceptable. The scale was originally developed in French, but an English version is now in common use (Buhr & Dugas, 2002). This version has been shown to have good internal consistency (Cronbach's \( \alpha = .94 \)) test-retest reliability (\( r = .74 \)), and convergent and divergent validity when compared with symptom measures of worry, depression and anxiety.

The IUS consists of 27 statements. Participants are asked to rate how characteristic each statement is of themselves or their beliefs, on a scale of one ('not at all characteristic of me') to five ('entirely characteristic of me'). A higher score represents a greater intolerance of uncertainty.

**Self-Ambivalence**

Self-ambivalence was measured using the Self Ambivalence Scale (SAM; Bhar & Kyrios, 2007). The SAM is a 19 item self-report questionnaire designed to measure ambivalence about self-worth, morality and social acceptance. Respondents rate each item on a 5-point scale (from 0- not at all to 4- agree totally). Items are summed, and a higher score represent higher levels of self-ambivalence.

The measure comprises two sub-scales: self-worth ambivalence and moral ambivalence, both of which demonstrated good internal consistency in clinical and non-clinical samples (Cronbach's \( \alpha \) ranging from .85 to .88), and stable test-retest reliability (Bhar & Kyrios, 2007). Test-re-test reliability was shown to be stable (\( r = .44 \) and .57) and convergent validity was also demonstrated through high correlations with related measures of self-evaluation (Bhar & Kyrios, 2007).

**Adult Attachment Insecurity**

Attachment insecurity was measured using the Experiences in Close Relationships - Revised scale (ECR-R; Fraley, et al., 2000). Attachment insecurity is operationalised on two dimensions within the ECR-R: attachment-related anxiety and attachment-related avoidance. The ECR-R is designed to assess individual differences on these two sub-scales. Attachment-related anxiety is
considered to be a measure of the extent to which people feel insecure versus secure about their partner's availability and responsiveness. Attachment-related avoidance is understood as the extent to which people feel uncomfortable being close to others versus secure depending on others.

The ECR-R has been shown to have good internal consistency ($\alpha = .90$; Fraley, et al., 2000), and convergent and discriminant validity (Sibley et al., 2005). Factor analysis has also confirmed that the ECR-R has a dual factor structure (Sibley & Liu, 2004).

The measure comprises 36 items, 18 for each sub-scale. Each item is a statement which participants are asked to rate on a scale from one (strongly disagree) to seven (strongly agree). Several items are reverse scored. For each sub-scale, the mean score of the 18 items is calculated to give the participant's final score on that scale. Each individual therefore has two scores between zero and seven, one for each scale. Higher scores on each scale are indicative of greater attachment insecurity (i.e. anxiety and avoidance).

**Worry**

Worry was measured using the Penn State Worry Questionnaire (PWSQ; Meyer, et al., 1990). This measure was developed to assess the generality, excessiveness and uncontrollability of worry in both clinical and non-clinical populations. It has been shown to have high internal consistency ($\alpha = .91$ to .95), good test-retest reliability ($r = .92$) and to demonstrate good convergent and divergent validity when compared with other measures (Meyer et al., 1990).

The PSWQ consists of 16 statements which participants are asked to rate from one ('not at all typical of me') to five (very typical of me). When reverse-scored items are corrected, a higher total score represents a higher tendency to worry.

**Depression**

Depression was measured using the depression scale from the Depression, Anxiety and Stress Scales (DASS; Lovibond & Lovibond, 1995a). The depression
scale within this measure has been shown to have high internal consistency ($\alpha = .91$) and acceptable convergent validity, showing a correlation of $r= .74$ with the Beck Depression Inventory (Lovibond & Lovibond, 1995b). The DASS is described as being based on dimensional rather than categorical constructs, so that clinical and non-clinical participants differ only in terms of the degree to which they experience the difficulties being measured. This made the scale particularly suitable for the present study's community sample.

Participants are asked to rate to what extent they think statements apply to them on a scale from zero ('did not apply to me at all') to three ('applied to me very much, or most of the time'). Scores for the scale are summed, to give a total out of 21, and then doubled to give standardised scores comparable with the DASS-42, a longer version of the scale (although this step is not necessary for correlational analysis).

**Ethical considerations**

Careful thought was given to whether completing the survey was likely to cause distress or difficulty to participants. It was concluded this was unlikely. However, steps were taken to minimise the small risk. The rationale for and procedure involved in completing the survey was clearly explained on an information screen (see Appendix I), which was the first screen shown to potential participants when they visited the survey web-page. Participants could take as much time as they wanted to read and think about the information. All participants were also required to complete an electronic consent form prior to taking part, in which it was made clear that they were free to withdraw from the study at any time (see Appendix J).

Contact details of potential sources of support, both external and within the University of Surrey, were provided on both the initial information screen and the 'debrief' screen shown at the end of the survey (see Appendix K). As can be seen, this screen also acknowledged that to have concerns about one's physical health is a normal experience (so that participants did not feel concerned if
completing the survey had brought to their attention that they did have such thoughts).

Once the data had been collected, participant contact details (for entering into the prize draw) were removed from the data set, to be stored securely in a password-protected file until the draw was carried out and the winners notified.

The study was reviewed by the University of Surrey Faculty of Arts and Human Sciences Research Ethics Committee and received a favourable ethical opinion (see Appendix L for evidence of approval).

**Procedure**

Potential participants were invited to take part in the survey through invitation e-mails (Appendix A). These e-mails included information about the survey and the optional prize draw, and provided a link to the survey website. On visiting the survey site online, participants were shown an information screen and a consent screen, followed by the survey - consisting of questions to collect demographic data and the six measures. The online survey was designed so that participants were required to answer all necessary questions in order to move on. At the end of the survey, participants were shown a ‘debrief’ screen and asked to provide a contact e-mail address if they wished to be entered into the prize draw. Data were then exported from the online survey package into an SPSS data file for analysis.
Results

Data screening
Due to restrictions built into the online method of data collection, there were no missing values in the data. The data of participants who had only partially completed the survey were removed from the data set prior to analysis, in line with what had been stated in the consent form.

The data for each variable were screened to check the assumption of normality. Kolmogorov-Smirnov (K-S) tests were run on the data and results were considered in conjunction with visual screening of histograms (since K-S results are sensitive to large samples; Field, 2009). A positively skewed distribution was identified for the depression scale. From a theoretical perspective, it would be predicted that scores on the depression scale would be positively skewed in a non-clinical sample such as the one used in this study. The depression data distribution was not found to be prohibitive to conducting the planned analyses which included this scale.

No outliers were detected through examining Box-Whisker plots for each variable, so no scores were removed from the data.

Demographics
A summary of the demographic information collected about the study sample are shown in Table 3.

The sample was predominantly female (81.5%). Participants ranged in age from 18 to 63. Mean age was 23.06 (with a standard deviation of 6.35). The most commonly reported marital status was single (91.6%). The majority of participants (81.5%) described themselves as students. The biggest representation of ethnic groups was White British (69.9%).
Table 3: Demographic information of study sample

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of participants in sample</td>
<td>249</td>
</tr>
<tr>
<td>Number (and %) of female participants</td>
<td>203 (81.53%)</td>
</tr>
<tr>
<td>Number (and %) of male participants</td>
<td>46 (18.47%)</td>
</tr>
<tr>
<td>Mean (and standard deviation) of ages in years</td>
<td>23.06 (6.35)</td>
</tr>
<tr>
<td>Minimum, maximum (and range) of ages</td>
<td>18-63 (45)</td>
</tr>
<tr>
<td>Frequency (and %) of classifications of marital status</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>228 (91.57%)</td>
</tr>
<tr>
<td>Married</td>
<td>17 (6.83%)</td>
</tr>
<tr>
<td>Civil Partnership</td>
<td>2 (0.80%)</td>
</tr>
<tr>
<td>Divorced/Separated</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Widowed</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Frequency (and %) of levels of education</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>GCSE/O-Level/NVQ/Equivalent</td>
<td>1 (0.80%)</td>
</tr>
<tr>
<td>A-Level/Equivalent</td>
<td>126 (50.60%)</td>
</tr>
<tr>
<td>Diploma (HND, SRN, etc.)</td>
<td>3 (1.20%)</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>72 (28.92%)</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>47 (18.88%)</td>
</tr>
<tr>
<td>Frequency (and %) of employment status</td>
<td></td>
</tr>
<tr>
<td>Employed - Full Time</td>
<td>17 (6.83%)</td>
</tr>
<tr>
<td>Employed - Part Time</td>
<td>18 (7.23%)</td>
</tr>
<tr>
<td>Student</td>
<td>203 (81.53%)</td>
</tr>
<tr>
<td>Retired</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>3 (1.20%)</td>
</tr>
<tr>
<td>Other</td>
<td>8 (3.21%)</td>
</tr>
<tr>
<td>Frequency (and %) of classifications of ethnicity</td>
<td></td>
</tr>
<tr>
<td>White British</td>
<td>174 (69.88%)</td>
</tr>
<tr>
<td>White Irish</td>
<td>2 (0.80%)</td>
</tr>
<tr>
<td>Any other White Background</td>
<td>43 (17.27%)</td>
</tr>
<tr>
<td>Mixed – White &amp; Black British Caribbean</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Mixed – White &amp; Black British African</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Mixed – White &amp; Asian</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Any other mixed background</td>
<td>4 (1.61%)</td>
</tr>
<tr>
<td>Asian or Asian British – Indian</td>
<td>4 (1.61%)</td>
</tr>
<tr>
<td>Asian or Asian British – Pakistani</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Asian or Asian British – Bangladeshi</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Any other Asian or Asian British background</td>
<td>4 (1.61%)</td>
</tr>
<tr>
<td>Black or Black British – Caribbean</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Black or Black British – African</td>
<td>1 (0.40%)</td>
</tr>
<tr>
<td>Any other Black or Black British background</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Chinese</td>
<td>7 (2.81%)</td>
</tr>
<tr>
<td>Any other background</td>
<td>4 (1.61%)</td>
</tr>
</tbody>
</table>
Reliability

Since measures of reliability (internal consistency) pertain to specific samples, this statistic was calculated for each measure used in the present study. These results are shown in Table 4.

As can be seen, the reliability of the measures for the present sample ranged from .81 to .95. These scores represent a range of acceptable to very good levels of internal consistency within the measures used, for the present study's sample.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Number of items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHAI</td>
<td>10 used</td>
<td>.81</td>
</tr>
<tr>
<td>IUS</td>
<td>27</td>
<td>.94</td>
</tr>
<tr>
<td>SAM Total</td>
<td>19</td>
<td>.92</td>
</tr>
<tr>
<td>ECR-R Anxiety</td>
<td>18</td>
<td>.92</td>
</tr>
<tr>
<td>ECR-R Avoidance</td>
<td>18</td>
<td>.95</td>
</tr>
<tr>
<td>PWSQ</td>
<td>16</td>
<td>.93</td>
</tr>
<tr>
<td>DASS-Depression</td>
<td>7</td>
<td>.87</td>
</tr>
</tbody>
</table>

To allow comparison of the SHAI reliability to other literature, the Spearman-Brown Prophesy Formula was used to calculate the probable reliability of the SHAI in this study if 14 items had been used. This was found to be .86.

This value compares favourably with other studies that have employed the 14-item SHAI to measure health anxiety. The original paper (Salkovskis et al., 2002) reported a Cronbach’s $\alpha$ of .89, and a more recent study which included a large community sample (n=273; Hadjistavropoulos et al., 2012) reported a Cronbach’s $\alpha$ of .88. Another study with a sample similar to the present study’s (a non-clinical student sample; Wheaton et al., 2010) also reported a Cronbach’s $\alpha$ of .86 for the 14-item scale.
Descriptive statistics

Table 5 shows the primary descriptive statistics for the variables measured in this study, for the sample of 249 participants.

Table 5: Descriptive statistics for variables measured in the present study, N = 249.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Variable</th>
<th>Score range of measure</th>
<th>Minimum score in sample</th>
<th>Maximum score in sample</th>
<th>Mean score</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-item-SHAI</td>
<td>Health anxiety</td>
<td>0-30</td>
<td>1</td>
<td>22</td>
<td>8.18</td>
<td>3.86</td>
</tr>
<tr>
<td>IUS</td>
<td>Intolerance of uncertainty</td>
<td>27-135</td>
<td>29</td>
<td>123</td>
<td>64.59</td>
<td>18.25</td>
</tr>
<tr>
<td>SAM TOTAL</td>
<td>Self-ambivalence</td>
<td>0-76</td>
<td>4</td>
<td>69</td>
<td>27.78</td>
<td>13.90</td>
</tr>
<tr>
<td>ECR-R anx</td>
<td>Anxious attachment</td>
<td>0-7</td>
<td>1</td>
<td>6.50</td>
<td>3.06</td>
<td>1.13</td>
</tr>
<tr>
<td>ECR-R avoid</td>
<td>Avoidant attachment</td>
<td>0-7</td>
<td>1</td>
<td>6.06</td>
<td>2.94</td>
<td>1.21</td>
</tr>
<tr>
<td>PSWQ</td>
<td>Worry</td>
<td>16-80</td>
<td>23</td>
<td>80</td>
<td>52.70</td>
<td>13.47</td>
</tr>
<tr>
<td>DASS-Dep</td>
<td>Depression</td>
<td>0-42</td>
<td>0</td>
<td>40</td>
<td>9.81</td>
<td>8.47</td>
</tr>
</tbody>
</table>

For the analyses conducted in this study, it was not considered to be of benefit to alter the 10-item scores of the SHAI. However, in order that the SHAI mean could be compared with other literature in which the 14-item SHAI was used, the SHAI mean value was multiplied by 1.4. This produced an adjusted mean of 11.46.

This mean is comparable, although slightly higher than, other studies' non-clinical samples. Salkovskis et al. (2002) reported their control and student samples had means of 9.4 and 9.6 respectively. Alberts et al. (2011) reported a mean score of 9.19 in their community sample.

Two further studies are worthy of note here due to their similarities with the present study's sample. Abramowitz et al. (2007) and Wheaton et al. (2010) both report large non-clinical student samples (n=442 and n=636, respectively), in which the majority of participants were female and described themselves as Caucasian. These studies employed the 18-item scale, so to compare the present study's mean required further extrapolation - multiplying by 1.8 to...
give an adjusted mean of 14.72. Support is provided for this comparison of scores by Wheaton et al. (2010) who report a very strong correlation between the 18-item and 14-item scales (r=.94).

Again, it appears that the present study's sample may have slightly higher levels of health anxiety than these studies, as the adjusted mean SHAI score is higher than in the Abramowitz et al. (2007) sample (m=10.79) and the Wheaton et al. (2010) sample (m=12.48). However, it must be noted that these can only be very tentative conclusions, due to the large assumptions inherent in adjusting the present study's mean.

In further consideration of the present study's sample, it is possible to use the 14-item extrapolated scores to tentatively assess the level of 'caseness' in the sample. Tang et al. (2007) suggest that scores over 18 (out of 42) on the 14-item scale are indicative of hypochondriasis/severe health anxiety. It is of course not clear that this measure could be used to assess diagnostic severity in isolation (i.e. without further clinical assessment). However, using this guide gives a speculative indication of the range inherent in the present study's sample.

A review of individual (extrapolated) 14-item scores suggests that 28 participants (11.3%) would meet this threshold. Again, allowing for the substantial assumption being made within this calculation (that participants would have scored similarly on the missing 4 items as they did on the included 10) it might very tentatively be concluded that the present study does include individuals from the more severe end of the health anxiety spectrum.

### Study Hypotheses

As outlined in the introduction of this report, the hypotheses for this study are as follows:
Main hypothesis:

1) Intolerance of uncertainty, self-ambivalence and attachment insecurity will be (a) positively correlated with; and (b) predict variance in health anxiety.

Mediating relationships:

2) The relationship between intolerance of uncertainty and health anxiety will be mediated by worry.

3) The relationship between self-ambivalence and health anxiety will be mediated by intolerance of uncertainty.

4) The relationship between attachment insecurity and intolerance of uncertainty will be mediated by self-ambivalence.

Hypothesis One

1) Intolerance of uncertainty, self-ambivalence and attachment insecurity will be (a) positively correlated with; and (b) predict variance in health anxiety.

Zero-order correlations

In the first step of investigation relevant to this hypothesis, Pearson's zero-order correlations (two-tailed) were calculated for each of the variables measured. Table 6 shows the results of these analyses.

Although the depression scale violated the assumption of normality, Clark-Carter (1997) suggests that only one of the variables used in a correlation needs to be normally distributed. Therefore, parametric correlation was used.
Table 6: Correlation matrix showing Pearson's bivariate correlations for each pairing of study variables.

<table>
<thead>
<tr>
<th></th>
<th>10-item SHAI</th>
<th>IUS Total</th>
<th>SAM Total</th>
<th>ECR-R Anxiety</th>
<th>ECR-R Avoidance</th>
<th>DASS-Depression</th>
<th>PSWQ (Worry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-item SHAI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IUS Total</td>
<td>.372*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAM Total</td>
<td>.328*</td>
<td>.551*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECR-R Anxiety</td>
<td>.096 (.132)</td>
<td>.342*</td>
<td>.469*</td>
<td>.448*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECR-R Avoidance</td>
<td>.060 (.345)</td>
<td>.250*</td>
<td>.359*</td>
<td>.448*</td>
<td>.276*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>DASS-Depression</td>
<td>.374*</td>
<td>.477*</td>
<td>.555*</td>
<td>.331*</td>
<td>.276*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PSWQ (Worry)</td>
<td>.513*</td>
<td>.575*</td>
<td>.492*</td>
<td>.211*</td>
<td>.127 (.046)</td>
<td>.395*</td>
<td>1</td>
</tr>
</tbody>
</table>

* Correlation is significant at the .001 level. Significance levels above .001 are shown in parenthesis.

These data show that health anxiety was found to be positively correlated, at a significance level of p=0.001, with all other variables measured except the attachment scales. Cohen (1988) suggests correlation coefficients of 0.1, 0.3 and 0.5 represent small, medium and large effect sizes, respectively. Following this approach, it can be seen that health anxiety was found to be correlated with intolerance of uncertainty, self-ambivalence and depression to a moderate extent. It was also shown to be correlated with worry to a greater extent, with the correlation representing a large effect size. These findings partially support the first part of the hypothesis: health anxiety was positively correlated with both intolerance of uncertainty and self-ambivalence, but it was not correlated with attachment insecurity at a significance level of p<.05.

Although not substantially correlated with health anxiety, the attachment scales were found to be positively correlated with both intolerance of uncertainty and self-ambivalence. Correlations between the attachment scales and these variables ranged from r=.250 to r=.469, representing moderate effect sizes.
In addition, it can be seen that intolerance of uncertainty and self-ambivalence were positively correlated, with a large correlation coefficient (r=.551).

Regression analysis

An examination of the zero-order correlations was carried out to assess the utility of conducting a regression analysis. The findings provided support for this step as a means to address Hypothesis One. However, given the lack of a significant correlation between health anxiety and the attachment scales, there was no sound rationale to include these in the analysis so they were left out.

To establish whether either intolerance of uncertainty or self-ambivalence were predictors of health anxiety, a hierarchical regression analysis was carried out. To establish the predictive power of the variables of interest beyond any impact of mood, depression scores were entered in the first step of the regression. Intolerance of uncertainty and self-ambivalence were added in the second step. The results of this analysis are summarised in table 8.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Constant</th>
<th>6.513</th>
<th>.348</th>
<th>18.689</th>
<th>.000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Depression</td>
<td>.170</td>
<td>.027</td>
<td>.374</td>
<td>6.331</td>
</tr>
<tr>
<td>Step 2</td>
<td>Constant</td>
<td>3.540</td>
<td>.829</td>
<td>4.269</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Depression</td>
<td>.101</td>
<td>.032</td>
<td>.222</td>
<td>3.124</td>
</tr>
<tr>
<td></td>
<td>Intolerance of uncertainty</td>
<td>.047</td>
<td>.015</td>
<td>.220</td>
<td>3.097</td>
</tr>
<tr>
<td></td>
<td>Self-ambivalence</td>
<td>.023</td>
<td>.021</td>
<td>.084</td>
<td>1.116</td>
</tr>
</tbody>
</table>

Note: $R^2$ for Step 1 = .140. Change in $R^2$ for Step 2 = .053 (p < .001).

$R^2$ for the first model was found to be .140, suggesting that this model accounted for 14% of the variance in health anxiety in the study sample.

As can be seen, following the addition of intolerance of uncertainty and self-ambivalence to the model, there was a change in $R^2$ of .053, which was
significant at the level of \( p < .001 \). The value of \( R^2 \) for the second model was \( .192 \), which represents 19.2% of the variance. This change in \( R^2 \) represents an increase in the amount of variance in health anxiety explained by the second model of 5.3%.

An examination of the beta coefficients in the second model show that depression and intolerance of uncertainty were found to be significant predictors of health anxiety at a level of \( p = .002 \). These variables had coefficients of approximately equal size and therefore can be considered to be similarly important in their contribution to this model. Self-ambivalence, in contrast, was associated with a smaller beta coefficient and a much higher level of significance (\( p=.265 \)). It can therefore be concluded that this variable does not contribute substantially to this model.

The adjusted \( R^2 \) for the second model was found to be \( .182 \). This statistic is very similar to the \( R^2 \) value, suggesting the cross-validity of this model is good.

**Diagnostics and assumption testing**

Out of 249 cases, 11 (4.42%) were shown to have standardised residuals beyond + or - 2. This is in line with expectations for an ordinary sample, so no further investigation of these cases was carried out (Field, 2009). In addition, no Cook's distances greater than 1 were observed in the sample, suggesting no singles cases had an unreasonably large influence on the models.

An examination of the collinearity statistics was carried out, and no significant sign of this was found in the models. None of the predictor variables were highly correlated with each other (\( r<.6 \)), variance inflation factors were less than 10 and all close to 1, and tolerance values were all >.2 (Field, 2009).

A histogram and normal probability plot of the regression standardised residuals were examined and no violation of the assumption of normality was detected. A scatterplot suggested no violation of the assumption of linearity.
The results of this regression analysis provide partial support for the second part of the main study hypothesis. They suggest that intolerance of uncertainty does predict health anxiety. However, self-ambivalence was not found to.

**Hypothesis Two**

The relationship between intolerance of uncertainty and health anxiety will be mediated by worry

As described earlier, intolerance of uncertainty and health anxiety were found to be moderately correlated at the zero-order level ($r = .372$). Both intolerance of uncertainty and health anxiety were found to have large correlations with worry at the zero-order level ($r = .575$ and $r = .513$, respectively). All these correlations were found to be significant at the level of $p<.001$. These results suggested strong relationships between these variables, worthy of further investigation.

To investigate whether worry mediates the relationship between intolerance of uncertainty and health anxiety, a mediation analysis was conducted. The procedure used followed the steps advocated by Preacher and Hayes (2004), and utilised an SPSS macro developed by these researchers to carry out mediation analysis. Figure 3 provides a diagrammatic representation of the relationships under investigation. The path labels ($a$, $b$, $c$, and $c'$) correspond to the results table shown below (Table 9).

![Diagram](image)

**Figure 3:** Diagrammatical representation of the relationships under investigation for Hypothesis Two, based on Preacher & Hayes (2004; p.718)
The first path illustrates a direct relationship, while the second shows the hypothesised mediational relationship. For complete mediation to be established - when the mediator (in this case, worry) is added into the model along with the predictor variable (PV; intolerance of uncertainty in this example), the unstandardised regression coefficient for the ‘effect’ of the predictor variable on the outcome (in this case, health anxiety) should reduce to zero (Baron and Kenny, 1986). For partial mediation, the unstandardised regression coefficient would be seen to reduce but would not be zero.

Table 9: Results of mediation analysis to test if worry mediates the relationship between intolerance of uncertainty (IU) and health anxiety (HA)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Path</th>
<th>B</th>
<th>SE of B</th>
<th>t</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IU → HA (PV → Outcome)</td>
<td>c</td>
<td>.079</td>
<td>.013</td>
<td>6.298</td>
<td>.000</td>
</tr>
<tr>
<td>IU → worry (PV → Mediator)</td>
<td>a</td>
<td>.424</td>
<td>.038</td>
<td>11.058</td>
<td>.000</td>
</tr>
<tr>
<td>Worry → HA (Mediator → Outcome)</td>
<td>b</td>
<td>.128</td>
<td>.019</td>
<td>6.715</td>
<td>.000</td>
</tr>
<tr>
<td>IU → HA (controlling for worry)</td>
<td>c'</td>
<td>.024</td>
<td>.014</td>
<td>1.728</td>
<td>.085</td>
</tr>
<tr>
<td>(PV → Outcome (controlling for Mediator)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bootstrap results for indirect effect (of IU on HA through worry)

<table>
<thead>
<tr>
<th>Point Estimate</th>
<th>SE</th>
<th>Lower limit 95% Bias Corrected Confidence Interval</th>
<th>Upper limit 95% Bias Corrected Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>.0544</td>
<td>.011</td>
<td>.035</td>
<td>.076</td>
</tr>
</tbody>
</table>

Note: B=Unstandardised regression coefficient. R² for the model = .272 (at sig. level <.0001). Number of bootstrap re-samples = 5000.

Table 9 also shows the bootstrap test results. This test was chosen because it does not assume that the sampling distribution of the indirect effect is normal, and has been shown to be more powerful than other tests of significance in mediation analysis (e.g. the Sobel test; Hayes, 2009).

The first three paths (a, b, and c) were found to be significant, so the conditions for a mediation relationship were met. In addition, the c' path showed that when worry is controlled for, the relationship between intolerance of
uncertainty and health anxiety reduces significantly, although not to zero. This suggests that the relationship between intolerance of uncertainty and health anxiety is partially mediated by worry. Further, $R^2$ in the model was found to be .272, which suggests that worry and intolerance of uncertainty together account for 27.2% of the variance seen in health anxiety in the present study. Finally, bootstrapping tests suggest that the indirect mediation effect of worry is positive and statistically different from zero, as shown by a 95% bias-corrected bootstrap confidence interval that is entirely above zero (.035 to .076).

**Hypothesis Three**

The relationship between self-ambivalence and health anxiety will be mediated by intolerance of uncertainty.

Zero-order correlations between the variables to which this hypothesis pertains were presented earlier. Self-ambivalence and intolerance of uncertainty were found to be moderately correlated with health anxiety ($r = .328$ and $r = .372$, respectively). Self-ambivalence and intolerance of uncertainty were found to be highly correlated with each other, representing a large effect size ($r = .551$).

To investigate whether the relationship between self-ambivalence and health anxiety is mediated by intolerance of uncertainty, as the theory suggests it might be, a mediation analysis was conducted. Figure 4 shows a diagram representing the relationships under investigation.

![Diagram showing the relationships under investigation for Hypothesis Three](image)

Figure 4: Diagrammatical representation of the relationships under investigation for Hypothesis Three
As can be seen from Table 10 below, the results of this mediation analysis suggest that intolerance of uncertainty partially mediates the relationship between self-ambivalence and health anxiety, since the beta coefficient is reduced when intolerance of uncertainty is controlled for (from .095 in the c path to .052 in the c' path). However, the relationship between self-ambivalence and health anxiety remains significant (p = .009), which may be expected given the theoretical understanding of self-ambivalence as a concept which subsumes intolerance of uncertainty.

Table 10: Results of mediation analysis to test if intolerance of uncertainty mediates the relationship between self-ambivalence (SA) and health anxiety

<table>
<thead>
<tr>
<th>Variables</th>
<th>Path</th>
<th>B</th>
<th>SE of B</th>
<th>t</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA → HA (PV → Outcome)</td>
<td>c</td>
<td>.095</td>
<td>.018</td>
<td>5.406</td>
<td>.000</td>
</tr>
<tr>
<td>SA → IU (PV → Mediator)</td>
<td>a</td>
<td>.714</td>
<td>.075</td>
<td>9.555</td>
<td>.000</td>
</tr>
<tr>
<td>IU → HA (Mediator → Outcome)</td>
<td>b</td>
<td>.059</td>
<td>.015</td>
<td>4.071</td>
<td>.000</td>
</tr>
<tr>
<td>SA → HA (controlling for IU)</td>
<td>c'</td>
<td>.052</td>
<td>.020</td>
<td>2.648</td>
<td>.009</td>
</tr>
<tr>
<td>(PV → Outcome (controlling for Mediator))</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bootstrap results for indirect effect (of SA on HA through IU)

<table>
<thead>
<tr>
<th>Point Estimate</th>
<th>SE</th>
<th>Lower limit 95% Confidence Interval</th>
<th>Upper limit 95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>.042</td>
<td>.013</td>
<td>.017</td>
<td>.069</td>
</tr>
</tbody>
</table>

Note: B = Unstandardised regression coefficient.   R^2 for the model = .162 (at sig. level < .0001). Number of bootstrap re-samples = 5000.

The R^2 value for the model suggests that self-ambivalence and intolerance of uncertainty together account for 16.2% of the variance observed in health anxiety in the present study. Bootstrapping tests also suggest that the indirect mediation effect of intolerance of uncertainty is positive and is statistically different from zero, since the range encompassed by the 95% bias-corrected bootstrap confidence intervals is entirely above zero (.017 to .069).
Hypothesis Four

The relationship between attachment insecurity and intolerance of uncertainty will be mediated by self-ambivalence.

The instrument used to measure attachment security/insecurity in this study, the 'Experiences in Close Relationships - Revised' scale, produces results on two separate sub-scales - Anxiety and Avoidance. Although clearly related, these scales do appear to be measuring different constructs in this study's sample, as the correlation coefficient of their relationship was found to be .448.

At the zero-order level, intolerance of uncertainty and self-ambivalence were found to have moderate to large correlations with anxious attachment ($r = .342$ and $r = .431$, respectively), and small to moderate correlations with avoidant attachment ($r = .250$ and $r = .342$, respectively). It can be seen that the anxiety scale is more correlated with the other variables than the avoidance scale. It is also worth noting that both scales correlate more highly with the self-ambivalence scale. This second finding fits with the theoretical understanding of these constructs, since self-ambivalence is theorised to develop from attachment difficulties.

To investigate Hypothesis Four, mediation analyses were run on both the anxious and the avoidant attachment scales of the ECR-R. Figure 5 shows the hypothesised relationships being tested in the analyses that follow.

![Figure 5: Diagrammatical representation of the relationships under investigation for Hypothesis Four](image-url)
Table 11 shows the results of the mediation analysis to test the relationships for anxious attachment. These results suggest that self-ambivalence partially mediates the relationship between anxious insecure attachment and intolerance of uncertainty, since the beta coefficient can be seen to have decreased when intolerance of uncertainty is controlled (B has reduced from 5.531 in the c path to 2.352 in the c' path). The relationship between anxious attachment and intolerance of uncertainty does remain significant however, at the level of p = .015.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Path</th>
<th>B</th>
<th>SE of B</th>
<th>t</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anx_Att → IU (PV → Outcome)</td>
<td>c</td>
<td>5.531</td>
<td>.966</td>
<td>5.725</td>
<td>.000</td>
</tr>
<tr>
<td>Anx_Att → SA (PV → Mediator)</td>
<td>a</td>
<td>5.060</td>
<td>.675</td>
<td>7.498</td>
<td>.000</td>
</tr>
<tr>
<td>SA → IU (Mediator → Outcome)</td>
<td>b</td>
<td>.628</td>
<td>.082</td>
<td>7.660</td>
<td>.000</td>
</tr>
<tr>
<td>Anx_Att → IU (controlling for SA) (IV → Outcome (controlling for Mediator))</td>
<td>c'</td>
<td>2.352</td>
<td>.964</td>
<td>2.440</td>
<td>.015</td>
</tr>
</tbody>
</table>

Bootstrap results for indirect effect (of AnxAtt on IU through SA)

<table>
<thead>
<tr>
<th>Point Estimate</th>
<th>SE</th>
<th>Lower limit 95% Confidence Interval</th>
<th>Upper limit 95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.179</td>
<td>.655</td>
<td>2.009</td>
<td>4.588</td>
</tr>
</tbody>
</table>

Note: B=Unstandardised regression coefficient. R² for the model = .287 (at sig. level < .0001).
Number of bootstrap re-samples = 5000.

The R² value for the model suggests that self-ambivalence and intolerance of uncertainty together account for 28.7% of the variance observed in anxious attachment insecurity in the present study. Bootstrapping tests also suggest that the indirect mediation effect of self-ambivalence is positive and is statistically different from zero, since the range encompassed by the 95% bias-corrected bootstrap confidence intervals is entirely above zero (2.009 to 4.588).
Table 12 shows the results of the mediation analysis conducted once more, but on this occasion using the avoidant attachment scale results.

Table 12: Results of mediation analysis to test if self-ambivalence mediates the relationship between avoidant attachment (Avd.Att) and intolerance of uncertainty

<table>
<thead>
<tr>
<th>Variables</th>
<th>Path</th>
<th>B</th>
<th>SE of B</th>
<th>t</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avd.Att → IU (PV → Outcome)</td>
<td>c</td>
<td>3.768</td>
<td>.929</td>
<td>4.055</td>
<td>.000</td>
</tr>
<tr>
<td>Avd.Att → SA (PV → MediatorV)</td>
<td>a</td>
<td>3.746</td>
<td>.656</td>
<td>5.711</td>
<td>.000</td>
</tr>
<tr>
<td>SA → IU (MediatorV → Outcome)</td>
<td>b</td>
<td>.676</td>
<td>.079</td>
<td>8.514</td>
<td>.000</td>
</tr>
<tr>
<td>Avd.Att → IU (controlling for SA) (PV → Outcome (controlling for MediatorV))</td>
<td>c'</td>
<td>1.236</td>
<td>.871</td>
<td>1.420</td>
<td>.157</td>
</tr>
</tbody>
</table>

Bootstrap results for indirect effect (of AvdAtt on IU through SA)

<table>
<thead>
<tr>
<th>Point Estimate</th>
<th>SE</th>
<th>Lower limit 95% Confidence Interval</th>
<th>Upper limit 95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.532</td>
<td>.526</td>
<td>1.574</td>
<td>3.634</td>
</tr>
</tbody>
</table>

Note: B=Unstandardised regression coefficient. R² for the model = .276 (at sig. level < .0001). Number of bootstrap re-samples = 5000.

These results suggest that again self-ambivalence partially mediates the relationship, this time between avoidant insecure attachment and intolerance of uncertainty. The beta coefficient can be seen to have decreased when intolerance of uncertainty is controlled (B has reduced from 3.768 in the c path to 1.236 in the c' path). The relationship between avoidant attachment and intolerance of uncertainty in this analysis has been shown to have reduced.

The R² value for the model suggests that self-ambivalence and intolerance of uncertainty together account for 27.6% of the variance observed in avoidant attachment insecurity in the present study. Bootstrapping tests again suggest that the indirect mediation effect of self-ambivalence is positive and is statistically different from zero, since the range encompassed by the 95% bias-corrected bootstrap confidence intervals is again entirely above zero (1.574 to 3.634).
Discussion

This study set out to explore a number of factors hypothesised to be related to health anxiety, based on previous research findings and psychological theory. It examined the relationships between health anxiety, intolerance of uncertainty, self-ambivalence and adult attachment security.

The first hypothesis, stating that intolerance of uncertainty, self-ambivalence and attachment insecurity would be predictors of health anxiety, was only partly supported by the study's findings. Correlation analyses showed that attachment insecurity was not significantly related to health anxiety, so it was concluded that this variable would not be a predictor of health anxiety in this sample. Self-ambivalence was found to be correlated with health anxiety, but was not found to be a significant predictor of it in the regression analysis.

Analyses did establish however that intolerance of uncertainty is positively correlated with health anxiety: those who express a greater intolerance of uncertainty report greater health anxiety. Furthermore, intolerance of uncertainty and depression carried equal weight as predictors of health anxiety in the regression analysis. Further analysis suggested that the relationship between intolerance of uncertainty and health anxiety was, in part, mediated by worry.

The study also investigated other hypothesised mediation relationships between variables. The analysis went on to further explore the relationship between intolerance of uncertainty and health anxiety. Theory drawn upon in the Introduction suggests that self-ambivalence may be a predisposing factor for intolerance of uncertainty and so the prediction was tested that intolerance of uncertainty would mediate the relationship between self-ambivalence and health anxiety. The analysis indicated that intolerance of uncertainty could be a partial mediator of the relationship between these variables.
Finally, to further explore theoretical propositions regarding intolerance of uncertainty, the analysis presented indicates that attachment insecurity (in the form of both anxious attachment insecurity and avoidant attachment insecurity) is a predictor of intolerance of uncertainty and, further, that the relationship between attachment insecurity and intolerance of uncertainty is partially mediated by self-ambivalence.

**Theoretical implications**

*Intolerance of uncertainty*

Of the three key variables examined in this study, intolerance of uncertainty has been the one most linked with health anxiety in previous research. Many studies have found intolerance of uncertainty to be correlated with health anxiety in non-clinical samples (e.g. Abramowitz et al., 2007; Fergus & Valentiner, 2011a) and the present study's results confirm these findings.

In addition, this study found that intolerance of uncertainty had some predictive power in relation to health anxiety. This finding supports the theory that intolerance of uncertainty may be a vulnerability factor in the development and maintenance of health anxiety. That is, if an individual is intolerant of uncertainty, they are more likely to experience health anxiety. These findings support the views of the 'Health Anxiety Working Group' (Abramowitz, 2008), who identified intolerance of uncertainty as a vulnerability factor (also known as a cognitive bias or belief domain) for health anxiety. This study's results are also in line with several previous studies whose findings suggest that health anxiety and OCD have important factors in common, since both have been shown to be related to intolerance of uncertainty.

Intolerance of uncertainty was included in all three mediational hypotheses due to its possible theoretical link with all other variables measured in the study. The first of these investigated the relationships between intolerance of uncertainty, worry and health anxiety. All these variables had been found to correlate with each other in previous studies, as well as the present study, but...
the nature of how the three variables are related was not well investigated. This study's findings increase understanding of these factors, as they support the proposed role for worry as a mediator in the relationship between intolerance of uncertainty and health anxiety. When worry was controlled for, the direct relationship between intolerance of uncertainty and health anxiety was no longer found to be significant.

It is crucial when interpreting this and the other mediation analyses in the present study to note that Baron and Kenny's (1986) commonly used approach to mediation analysis does not allow a causal sequence to be established in a cross-sectional, correlational study such as this one (Hankins, 2012). This analysis can only test the plausibility of the proposed model, and can only address the question of whether the data support this particular way of modelling the variables (without denying that there are other ways of modelling them). This stated, the findings of these mediational analyses can still be seen to bring valuable additional information into the field of knowledge about how these variables may be related.

Yook et al. (2010) found that worry mediated the relationship between intolerance of uncertainty and general anxiety, and the present study showed that a comparable relationship appears to exist between intolerance of uncertainty and the more specific variant of anxiety investigated here - health anxiety. It may be argued that the present study's results add to the ever-increasing body of evidence suggesting that health anxiety and hypochondriasis can best be understood as part of the 'anxiety disorders' rather than as 'somatoform disorders' (which remains the classification group to which hypochondriasis belongs in the DSM-IV-TR; American Psychiatric Association, 2000).

Given the theoretical understanding of intolerance of uncertainty as a vulnerability or bias, it appears reasonable to theorise that it would require a practical mechanism such as worry in order to have an impact on an individual. If intolerance of uncertainty is a 'dormant' vulnerability, then a health-related
trigger - such as noticing an innocuous bodily symptom or reading about an illness - may activate it, and lead an individual to engage in worrying about their health. Health anxiety is believed to involve several key symptoms or experiences (Salkovskis *et al*., 2003). These may include worrying about one's health as well as hyper-vigilance to bodily signs and health-related information, misinterpretation, avoidance and safety-seeking behaviours. It may be that intolerance of uncertainty has a significant role specifically in the activation of worry in health anxiety. It may also be related to other aspects of health anxiety, such as the drive to seek out confirmatory information or the difficulty individuals have in feeling reassured. Further investigation into whether intolerance of uncertainty was related to other elements of health anxiety may therefore be worthwhile.

Further discussion of intolerance of uncertainty will be included in later sections of this Discussion, where findings from the additional mediational analyses are considered.

**Self-ambivalence**

The relationship between self-ambivalence and health anxiety had not been investigated before the present study. The first finding of note is that these variables were found to be correlated. These findings give additional weight to the view that OCD and health anxiety may have important factors in common on a fundamental level.

'Working Groups' investigating the fields of both health anxiety and OCD (Abramowitz, 2008; OCCWG, 1997) have identified several belief domains (or vulnerabilities) which these two disorders have in common. This study's finding of a correlation between health anxiety and self-ambivalence may begin to suggest that such 'meta-vulnerabilities' may indeed underlie these two anxiety disorders.

Bhar & Kyrios (2007) looked at self-ambivalence in both non-clinical and clinical groups. Their study included two clinical groups, one whose members had been
given a diagnosis of OCD and the other consisting of individuals with a range of other anxiety disorders (not including health anxiety). These researchers found that scores on the self-ambivalence measure did not differ significantly between these two groups (though they were significantly lower in their two non-clinical groups). The current study had a non-clinical sample, and does not allow for comparison between groups. However, this study's findings suggest that self-ambivalence is present in a large non-clinical sample, and that it appears to be associated with health anxiety in this group, and also with intolerance of uncertainty.

Based on the theoretically informed view of how self-ambivalence, intolerance of uncertainty and health anxiety may relate to each other, a mediation analysis was designed and conducted. The findings showed that intolerance of uncertainty may partially mediate the relationship between self-ambivalence and health anxiety. These findings provide initial support for a model of understanding these constructs in which self-ambivalence, a proposed meta-vulnerability, creates the conditions for the development of intolerance of uncertainty (a psychological 'vulnerability' or cognitive bias). This in turn may mean that an anxiety problem, such as health anxiety or obsessive-compulsiveness, is more likely to develop. This theory is very much in its infancy at this point, but the findings presented here support the case for further exploration.

The results of the regression analysis in the present study did not find support for the role of self-ambivalence as a predictor of health anxiety, but did suggest that intolerance of uncertainty and depression were predictors. Given the theorised overlap between self-ambivalence and intolerance of uncertainty, it might have been expected that they would account for shared variability in health anxiety.

If the understanding of self-ambivalence is as a 'meta-vulnerability' which subsumes intolerance of uncertainty, these results would not support this idea, since in that case it would be expected that, if anything, self-ambivalence would
have the greater influence on health anxiety of the two variables. However, another way that the 'meta' role of self-ambivalence can be understood is as a factor which promotes a range of cognitive biases such as intolerance of uncertainty, rather than subsuming them. In keeping with this view would be the fact that intolerance of uncertainty may have elements to it which were unique (i.e. not necessarily shared with self-ambivalence).

In addition, it might be that self-ambivalence functions differently in different anxiety disorders. In OCD it might be relatively central and relate to the majority of cognitive biases observed. In health anxiety it might play a less central role but remain an influencing factor.

**Attachment security**

Two of the study's hypotheses related directly to attachment security (or insecurity). The first of these stated that attachment insecurity would be a predictor of health anxiety. However, zero-order correlations did not show a substantial association between health anxiety and either of the attachment insecurity sub-scales (representing 'anxious' and 'avoidant' attachment styles). These scales were therefore not included in the analysis to further investigate this hypothesis.

It is important to consider why the present study might have failed to find a robust association between health anxiety and attachment insecurity. The most parsimonious reason is that there is no relationship between these variables, which remains a possibility. However, consideration of the findings described earlier in this report reveals substantial evidence to suggest that hypochondriasis (or severe health anxiety) and attachment insecurity are related.

Two of the possible explanations for the present study's findings pertain to the relationship between hypochondriasis and health anxiety. The first of these is that, contrary to the conceptualisation favoured by the majority of researchers and applied psychologists working in this field, these two constructs relate to
qualitatively different disorders. This issue is yet to be settled among researchers and clinicians (Abramowitz, 2008). However, there does appear to be substantially more evidence supporting the view that they are both part of the same spectrum of difficulties (e.g. Deacon & Abramowitz, 2008; Fergus & Valentiner, 2011b; Marcus et al., 2007).

A second possible explanation for this study's findings relates to the fact that none of the research conducted thus far (and cited in this report's introduction) has investigated a relationship between health anxiety and attachment. All the studies discussed have looked specifically at hypochondriasis (i.e. severe health anxiety) or other physical health-related behaviours, and none have used the SHAI in their data collection. In addition, the present study had a non-clinical sample. It is not clear whether an association might have been found in a clinical sample. There are also methodological issues with the measures used in the current study. However, these will be discussed in a later section of this report.

Despite a non-significant association with health anxiety, attachment insecurity (on both the 'anxious' and 'avoidance' scales) was found to be positively correlated with intolerance of uncertainty and self-ambivalence in the present study. The strength of these relationships for both sub-scales showed that attachment insecurity was more correlated with self-ambivalence than with intolerance of uncertainty.

This finding supports the theoretical understanding of these two variables. Self-ambivalence is postulated to be a deeper psychological 'structure' or 'meta-vulnerability' (Bhar & Kyrios, 2007; Guidano & Liotti, 1983;). It would therefore be expected to relate more strongly to a global, developmental construct such as attachment security/insecurity than would a cognitive bias (or vulnerability) such as intolerance of uncertainty.

In addition, of the two sub-scales, the 'anxious' scale was found to have stronger associations with all the other study variables – health anxiety,
intolerance of uncertainty, self-ambivalence, depression and worry. The two scales used to assess attachment in this study - labelled 'anxious' and 'avoidance' - have been designed to measure different dimensions of adult attachment security, so it would be expected that there be some differences in their results. The majority of studies presented earlier which looked at attachment and hypochondriasis also tended to find that those classifications of attachment insecurity higher on the 'anxious' dimension (that is, 'pre-occupied' or 'fearful' types) were somewhat more associated with hypochondriacal features (e.g. Wearden et al., 2006).

The second hypothesis in which attachment insecurity was involved in this study was found to be supported by the findings. Mediation analyses conducted with each attachment scale found that the relationship between attachment insecurity and intolerance of uncertainty was mediated by self-ambivalence.

These findings can again be understood by referring back to the theoretical relationships hypothesised in the study introduction. Intolerance of uncertainty, shown to be a 'vulnerability' or cognitive bias in health anxiety (e.g. Deacon & Abramowitz, 2008), was found to be associated with attachment insecurity on both dimensions. The postulated meta-level position of self-ambivalence with relation to attachment insecurity (which precedes its development) and intolerance of uncertainty (which it may lead to) provides a rationale for its role as a mediator between these two.

The findings of the present study suggest several areas of further research, which will be discussed later in this report. The methodological aspects of this study, which may impact on the extent to which the findings contribute to the field of health anxiety research, will first be considered.
Methodological Limitations

Sample
The sample of participants in this study may be seen to be limited with respect to how generalisable the study findings might be. Although drawn from a non-clinical population, the sample is unlikely to be representative of a broad community sample.

Participants were recruited through a University department, and were all either under- or post-graduate students at the time of data collection. The range of ages in the sample was large (18 to 63), but the mean age was relatively young (23). Female participants were over-represented, making up 82% of the sample. Ethnic background was not widely represented, with 70% of participants describing themselves as White British and a further 17% describing themselves as coming from a non-British/Irish White background. In addition, the educational background of the sample would not be representative of the general population.

For a study including a measure of adult attachment, the sample was also not widely representative in terms of marital status. The majority (92%) described themselves as single. In retrospect, it may have been a helpful addition to also ask participants about their relationship status, since this may have captured more helpful information about the sample. In addition, if many of the participants were not in 'romantic' relationships, completing the ECR-R may have been experienced as less straightforward, making it less likely to yield accurate data.

Although the sample in the current study certainly limits those populations to which the findings can be generalised, it is worth noting that the sample was not dissimilar to those in several related studies cited in this report (e.g. Abramowitz et al., 2007; Wearden et al., 2006; Wheaton et al., 2012). In these studies, samples were also drawn from Universities, and in the studies listed above participants were all undergraduates. Mean ages were again young, and
the samples were also predominately female. As such, this study suffers from sampling criticisms that are also evident elsewhere in the literature.

**Design**

The design of this study was cross-sectional and correlational, which precludes causal inferences being made based on its findings. Although the results show that the variables of interest are related to health anxiety, it cannot be established from these data whether they are causes or consequences of this phenomenon. A theoretically informed understanding of how they might interact can be speculated on, however, and it is possible to test the plausibility of particular ways of modelling the different variables.

**Measurement**

In general, the measures used in this study were found to be reliable within the sample. The administrative error relating to the SHAI may have had a significant effect on the results found in the study, so any conclusions drawn based on data including this scale must be tentative. However, the internal consistency of the 10 items used was found to be good, and was also comparable with the full version of the scale used in other studies.

Due to the present study's failure to find a substantial association between attachment insecurity and health anxiety, it is important to consider whether measurement of attachment may have played a role in these findings. Although the ECR-R scores did not correlate highly with the SHAI, it is noteworthy that they did correlate with the measures of self-ambivalence, depression and intolerance of uncertainty. These findings were in line with what theory would predict and therefore provide support for the ECR-R as a valid measure.

However, measurement of attachment in self-report surveys is often problematic, and the present study is no exception. The ECR-R is a well-established and psychometrically sound measure. Its scales were also shown to
have excellent internal consistency with the current sample. However, the suitability of a self-report questionnaire as a diagnostic instrument to establish attachment security/insecurity remains questionable.

In addition, in this study, the format of the ECR-R chosen entailed asking participants to focus on their experience of relationships with 'romantic partners'. For a sample including many undergraduates, it may be that several participants had no experience of this kind of relationship. The measure's instructions suggested that in this case, participants may choose to use their experience of other close relationships to help them answer the questions. However, this may have meant that, for these participants, a somewhat different construct was being measured.

The 'gold standard' for assessing adult attachment for research is to use a more objective, flexible measure such as the Adult Attachment Interview. However, it is often not possible to administer this due to limited resources. It may also prevent the recruitment of a larger sample. An alternative approach relating to the field of enquiry of the present study is presented in the 'Future Research' section below.

**Future Research**

The present study found significant correlational and predictive relationships between health anxiety and intolerance of uncertainty, and also self-ambivalence. Considered in the context of similar findings for OCD, the results add support to the view that these two anxiety disorders have much in common. Recent work in the cognitive-behavioural field recognises the potential value of developing unifying theories for the anxiety disorders (e.g. Harvey et al., 2004). This is often described as a 'transdiagnostic' approach to research and treatment. The present study's findings suggest that an exploration of the relationships of intolerance of uncertainty and self-ambivalence with other anxiety disorders may further add to our understanding of these.
If intolerance of uncertainty and self-ambivalence are in fact characteristic features of anxiety per se, then the challenge for future research will be to establish to what extent these and other possible 'transdiagnostic' factors are important in the various presentations of anxiety, and what unique factors remain. A recent study (Carleton et al., 2012) suggests that intolerance of uncertainty may be a significant factor in the development and/or maintenance of depression as well as a range of anxiety disorders. The study found elevated levels of intolerance of uncertainty in clinical groups (with diagnoses of depression, OCD, social anxiety disorder, panic disorder and generalised anxiety disorder) when compared with two non-clinical samples.

Findings in the present study support a theoretical conceptualisation in which intolerance of uncertainty has a role in the activation of worry in health anxiety. Theory would also suggest that intolerance of uncertainty could be related other aspects of health anxiety, such as the drive to seek out confirmatory information and the reported difficulty individuals experience in feeling effectively reassured by health professionals. It may therefore be worth exploring whether these health anxiety related behaviours are also associated with intolerance of uncertainty, and perhaps whether they might also be mediators of the effect of intolerance of uncertainty on health anxiety.

It is not yet clear what the current study's initial findings relating to self-ambivalence and health anxiety may indicate. An important question to answer might be whether, for people with experience of health anxiety, the descriptions of self-ambivalence offered by Guidano & Liotti (1983) match the phenomenology. Exploratory studies, with a qualitative design, may allow better understanding of this relationship.

In addition, it may also be useful to investigate whether self-ambivalence might relate to other anxiety disorders, given that the present study found support for a possible role of an underlying, 'meta-vulnerability' in health anxiety and the fact that Bhar & Kyrios (2007) failed to differentiate OCD and non-OCD anxiety groups on self-ambivalence scores.
With regard to the problematic research design task of finding a suitable measure of attachment for a large sample, it might be that attempting to measure a different - but related - variable provides a solution. Another method of measuring the relational aspects of health anxiety might be to engage with the research on mentalisation. Attachment is hypothesised to be directly linked (through early development) with an individual's ability to mentalise. In addition, ability to mentalise is thought to be reduced when an individual's 'threat-system' is activated (as in the case of health anxiety, or any other anxiety disorder; Liotti & Gilbert, 2011). Future research designed to measure health anxiety and ability to mentalise might provide a better understanding of how developmental or inter-personal aspects of health anxiety manifest themselves.

Finally, due to the limitations of the present study relating to its design, future research involving experimental and longitudinal designs may be advised. Studies with these designs might allow the nature of the relationships presented in this study to be better understood, for example by developing clearer ideas of causal pathways for the predictors and consequences of health anxiety.

**Clinical Implications**

Drawing conclusions from studies with non-clinical samples about how the findings may relate to clinical intervention work can be challenging. However, the findings of this study do add to the knowledge base in ways which could be relevant to current practice.

The present study found that health anxiety was related to both self-ambivalence and - perhaps more crucially with respect to clinical practice - intolerance of uncertainty. Further, intolerance of uncertainty was found to be a predictor of health anxiety. Both these findings add weight to the 'transdiagnostic' approach already being utilised in the understanding and treatment of prevalent mental health difficulties (e.g. Butler et al., 2008). The prevalence and perhaps central role of intolerance of uncertainty in several
anxiety disorders also suggests it might be a cognitive bias (or vulnerability) for which there would be value in designing explicit interventions.

If a predictor of several anxiety disorders is that individuals are struggling to tolerate feelings and thoughts relating to uncertainty, then approaches which increase tolerance may prove to be helpful. Just as increased tolerance of, for instance, unpleasant intrusions (without recourse to carrying out the corresponding compulsions) can help people to address their OCD, a similar approach of Exposure and Response Prevention for uncertainty might be effective in reducing the impact of intolerance of uncertainty. Deacon & Abramowitz (2008) make a similar suggestion, and put forward the work of Wilhelm & Steketee (2006) on OCD as an appropriate model for trialling this approach.

In addition, it may be worth considering the application of ideas from outside the CBT field as additional ways to address the clinical challenge of health anxiety. The dual approach discussed by Kempke & Luyten (2007) for example, encompassing both cognitive-behavioural and psychodynamic theory in thinking about OCD might also be relevant to health anxiety.

**Final Thoughts**

The present study did not find support for all the hypotheses proposed, but it did find results of interest which may add to current understanding of health anxiety. With regard to the link with clinically relevant theory, it is hoped these findings will be seen to provide additional support to the conceptualisation of both health anxiety and hypochondriasis as existing within the spectrum of anxiety disorders. It is apparent that findings such as the relationships seen in this study with worry, self-ambivalence and intolerance of uncertainty in particular, are helping to build a clearer picture of how anxiety about health may develop and be maintained. This improved understanding should in turn lead to more effective interventions for this complex difficulty.
References


reported medical and non-medical samples. *Journal of Behavioral Medicine, 35*, 167-178.


APPENDICES
Appendix A: E-mail advert/invitation to participate in the study

Participate in an online study for the chance to win up to £75 in Amazon e-vouchers

I am running a study looking at people’s views about themselves, their health and their relationships. Taking part in this study would involve completing an online survey, which usually takes around 20 minutes.

Completion of the questionnaire entitles you to be entered into a prize draw if you so wish. The prizes on offer are Amazon e-vouchers with the following values:

This study has received a favourable ethical opinion from the Faculty of Arts and Human Sciences Ethics Committee at the University of Surrey.

For further information and the chance to take part, please click on the link below:

[LINK TO ONLINE SURVEY]
Appendix B: Demographic Information questions

To begin, please answer the following questions. They cover some basic information about you (such as your age, education and employment status). The information that you give will never be used to identify you and all data is confidential.

1. How did you hear about this study?
   - Advert on a website
   - Recommended by someone I know
   - Email at University
   - Other (please specify)______________________________

2. What is your gender?
   - Male
   - Female

3. What is your age?___ years old

4. What is your highest educational qualification? (please select one option only)
   - No formal qualifications
   - Diploma (HND, SRN, etc.)
   - GCSE/O-Level/CSE
   - Degree (BSc, BA etc.)
   - A-Level/AS-Level
   - Postgraduate degree/diploma

___If the answer given here was under 16 the participant was unable to continue with the survey.____
5. What is your current employment status? (please select one option only)

Employed full time

Retired

Employed part time

Unemployed

Student

Other (please specify)

6. What is your current legal marital status? (please select one option only)

Single

Divorced/separated

Married

Widowed

Civil partnership

7. How would you describe your ethnic origin? (please select one option only)

White British

White Irish

Any other White Background

Mixed – White and Black Caribbean

Mixed – White and Black African

Mixed – White and Asian

---

7 The software used was unable to create a ‘nested table’ option, such as that used in Census collection of data pertaining to ethnic origin. The table used, therefore, was produced by separating the Census categories into individual options.
Any other Mixed background
Asian or Asian British – Indian
Asian or Asian British – Pakistani
Asian or Asian British – Bangladeshi
Any other Asian or Asian British Background
Black or Black British – Caribbean
Black or Black British – African
Any other Black or Black British background
Chinese
Any other background
Appendix C: The Short Health Anxiety Inventory

Each question in this section consists of a group of four statements. Please read each group of statements carefully and then select the one which best describes your feelings, over the past six months. Identify the statement by selecting the box next to it i.e. if you think that statement (a) is correct, select the box next to statement (a); it may be that more than one statement applies, in which case, please select any that are applicable.

1. a) I do not worry about my health  
   b) I occasionally worry about my health  
   c) I spend much of my time worrying about my health  
   d) I spend most of my time worrying about my health

2. a) I notice aches/pains less than most other people (of my age)  
   b) I notice aches/pains as much as most other people (of my age)  
   c) I notice aches/pains more than most other people (of my age)  
   d) I am aware of aches/pains in my body all the time

3. a) As a rule I am not aware of bodily sensations or changes  
   b) Sometimes I am aware of bodily sensations or changes  
   c) I am often aware of bodily sensations or changes  
   d) I am constantly aware of bodily sensations or changes

4. a) Resisting thoughts of illness is never a problem  
   b) Most of the time I can resist thoughts of illness  
   c) I try to resist thoughts of illness but am often unable to do so  
   d) Thoughts of illness are so strong that I no longer ever try to resist them

5. a) As a rule I am not afraid that I have a serious illness  
   b) I am sometimes afraid that I have a serious illness  
   c) I am often afraid that I have a serious illness  
   d) I am always afraid that I have a serious illness

6. a) I do not have images (mental pictures) of myself being ill  
   b) I occasionally have images of myself being ill  
   c) I frequently have images of myself being ill  
   d) I constantly have images of myself being ill

7. a) I do not have any difficulty taking my mind off thoughts about my health  
   b) I sometimes have difficulty taking my mind off thoughts about my health  
   c) I often have difficulty taking my mind off thoughts about my health  
   d) Nothing can take my mind off thoughts about my health
8. a) I am lastingly relieved if my doctor tells me there is nothing wrong
   b) I am initially relieved but the worries sometimes return later
   c) I am initially relieved but the worries will always return later
   d) I am not relieved if my doctor tells me there is nothing wrong

9. a) If I hear about an illness I never think I have it myself
   b) If I hear about an illness I sometimes think I have it myself
   c) If I hear about an illness I often think I have it myself
   d) If I hear about an illness I always think I have it myself

10. a) If I have a bodily sensation or change I rarely wonder what it means
    b) If I have a bodily sensation or change I often wonder what it means
    c) If I have a bodily sensation or change I always wonder what it means
    d) If I have a bodily sensation or change I must know what it means

The four items missed off the SHAI on the online survey were as follows:

11. a) I usually feel at very low risk for developing a serious illness
    b) I usually feel at fairly low risk for developing a serious illness
    c) I usually feel at moderate risk for developing a serious illness
    d) I usually feel at high risk for developing a serious illness

12. a) I never think I have a serious illness
    b) I sometimes think I have a serious illness
    c) I often think I have a serious illness
    d) I usually think that I am seriously ill

13. a) If I notice an unexplained bodily sensation I never do anything to try to get rid of it
    b) If I notice an unexplained bodily sensation I sometimes try to get rid of it
    c) If I notice an unexplained bodily sensation I often try to get rid of it
    d) If I notice an unexplained bodily sensation I always try to get rid of it

14. a) My family/friends would say I do not worry enough about my health
    b) My family/friends would say I have a normal attitude to my health
    c) My family/friends would say I worry too much about my health
    d) My family/friends would say I am a hypochondriac
The additional 4-item 'Negative Consequences' sub-scale, used by some researchers in addition to the main SHAI scale (but purposely not used in the present study) is also shown below:

For the following questions, please think about what it might be like if you had a serious illness of a type which particularly concerns you (such as heart disease, cancer, multiple sclerosis and so on). Obviously you cannot know for definite what it would be like; please give your best estimate of what you think might happen, basing your estimate on what you know about yourself and serious illness in general.

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<thead>
<tr>
<th></th>
<th>Question</th>
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<tbody>
<tr>
<td>15</td>
<td><strong>a</strong> If I had a serious illness I would still be able to enjoy things in my life quite a lot.</td>
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<tr>
<td></td>
<td><strong>b</strong> If I had a serious illness I would still be able to enjoy things in my life a little.</td>
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<td></td>
<td><strong>c</strong> If I had a serious illness I would be almost completely unable to enjoy things in my life.</td>
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<tr>
<td></td>
<td><strong>d</strong> If I had a serious illness I would be completely unable to enjoy life at all.</td>
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<tr>
<td>16</td>
<td><strong>a</strong> If I developed a serious illness there is a good chance that modern medicine would be able to cure me.</td>
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<tr>
<td></td>
<td><strong>b</strong> If I developed a serious illness there is a moderate chance that modern medicine would be able to cure me.</td>
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<tr>
<td></td>
<td><strong>c</strong> If I developed a serious illness there is a very small chance that modern medicine would be able to cure me.</td>
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<tr>
<td></td>
<td><strong>d</strong> If I developed a serious illness there is no chance that modern medicine would be able to cure me.</td>
</tr>
<tr>
<td>17</td>
<td><strong>a</strong> A serious illness would ruin some aspects of my life.</td>
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<tr>
<td></td>
<td><strong>b</strong> A serious illness would ruin many aspects of my life.</td>
</tr>
<tr>
<td></td>
<td><strong>c</strong> A serious illness would ruin almost every aspect of my life.</td>
</tr>
<tr>
<td></td>
<td><strong>d</strong> A serious illness would ruin every aspect of my life.</td>
</tr>
<tr>
<td>18</td>
<td><strong>a</strong> If I had a serious illness I would not feel that I had lost my dignity.</td>
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<td></td>
<td><strong>b</strong> If I had a serious illness I would feel that I had lost a little of my dignity.</td>
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<td></td>
<td><strong>c</strong> If I had a serious illness I would feel that I had lost quite a lot of my dignity.</td>
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<td></td>
<td><strong>d</strong> If I had a serious illness I would feel that I had totally lost my dignity.</td>
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Appendix D: The Intolerance of Uncertainty Scale

The following is a series of statements which describe how people may react to the uncertainties of life, and what their beliefs about uncertainty are. Please use the scale shown to indicate to what extent each item is characteristic of you or your beliefs.

For example, for the belief ‘Being uncertain means that a person is disorganised’ - if you do not believe this at all you would answer ‘Not at all characteristic of me’ and if you completely believed it you would answer ‘Entirely characteristic of me’.

Please choose the option (from 1 to 5) that describes you or your beliefs best.

<table>
<thead>
<tr>
<th></th>
<th>Not at all characteristic of me</th>
<th>Somewhat characteristic of me</th>
<th>Entirely characteristic of me</th>
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</thead>
<tbody>
<tr>
<td>Uncertainty stops me from having a firm opinion</td>
<td>1</td>
<td>2</td>
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<tr>
<td>Being uncertain means that a person is disorganised</td>
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<td>5</td>
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<tr>
<td>Uncertainty makes life intolerable</td>
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<td>It’s unfair not having any guarantees in life</td>
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<td>My mind can’t be relaxed if I don’t know what will happen tomorrow</td>
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<tr>
<td>Uncertainty makes me uneasy, anxious, or stressed</td>
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<tr>
<td>Unforeseen events upset me greatly</td>
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<td>It frustrates me not having all the information I need</td>
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<tr>
<td>Uncertainty keeps me from living a full life</td>
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<tr>
<td>One should always look ahead so as to avoid surprises</td>
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<tr>
<td>A small unforeseen event can spoil everything, even with the best of planning</td>
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<tr>
<td>When it’s time to act, uncertainty paralyses me</td>
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<tr>
<td>Being uncertain means that I am not first rate</td>
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<tr>
<td>Statement</td>
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<td>--------------------------------------------------------------------------</td>
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<tr>
<td>When I am uncertain, I can't go forward</td>
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<tr>
<td>When I am uncertain I can't function very well</td>
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<tr>
<td>Unlike me, others always seem to know where they are going with their lives</td>
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<tr>
<td>Uncertainty makes me vulnerable, unhappy or sad</td>
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<tr>
<td>I always want to know what the future has in store for me</td>
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<tr>
<td>I can't stand being taken by surprise</td>
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<tr>
<td>The smallest doubt can stop me from acting</td>
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<tr>
<td>I should be able to organise everything in advance</td>
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<tr>
<td>Being uncertain means that I lack confidence</td>
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<tr>
<td>I think it's unfair that other people seem sure about their future</td>
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<tr>
<td>Uncertainty keeps me from sleeping soundly</td>
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<tr>
<td>I must get away from all uncertain situations</td>
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<tr>
<td>The ambiguities in life stress me</td>
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<tr>
<td>I can't stand being undecided about my future</td>
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</table>
Appendix E: The Self-Ambivalence Measure

Please rate the extent to which you agree with the following statements. Indicate your answer by selecting the appropriate option on the scale beside each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>Agree a little</th>
<th>Agree moderately</th>
<th>Agree a lot</th>
<th>Agree totally</th>
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</thead>
<tbody>
<tr>
<td>I doubt whether others really like me</td>
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<tr>
<td>I am secure in my sense of self-worth</td>
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<td>I feel torn between different parts of my personality</td>
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<td>I fear I am capable of doing something terrible</td>
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<td>I think about my worth as a person</td>
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<td>I am constantly aware of how others perceive me</td>
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<td>I feel that I am full of contradictions</td>
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<td>I question the extent to which others want to be close to me</td>
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<td>I tend to think of myself in terms of categories such as &quot;good&quot; or &quot;bad&quot;</td>
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<td>I have mixed feelings about my self-worth</td>
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<td>I question whether I am a moral person</td>
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<td>I think about how I can improve myself</td>
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<td>If I inadvertently allow harm to come to others, this proves I am untrustworthy</td>
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<td>I tend to move from one extreme to the other in how I think about myself</td>
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<tr>
<td>I am mindful about how I come across to others</td>
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<tr>
<td>I am constantly concerned about whether I am a ‘decent’ human being</td>
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<td>I am constantly worried about whether I am a good or bad person</td>
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<td>I question whether I am morally a good or bad person</td>
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<td>I constantly worry about whether I will make anything of my life</td>
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Appendix F: The Experiences in Close Relationships – Revised Scale

The statements below concern how you generally feel in relationships with romantic partners (e.g. a girlfriend, boyfriend, or spouse).

If you have not had experience of such a relationship, respond according to how you think you would feel in a romantic relationship. You may want to use your experience of other close relationships (e.g. with close friends or family) to inform your answers.

Respond to each statement by selecting a number on the scale to indicate how much you agree or disagree with the statement.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly agree</th>
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<tbody>
<tr>
<td>It's easy for me to be affectionate with partners</td>
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<td>I rarely worry about my partner leaving me</td>
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<td>It's not difficult for me to get close to my partner</td>
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<td>When I show my feelings for partners, I'm afraid they will not feel the same about me</td>
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<td>I often wish that my partner's feelings for me were as strong as my feelings for him or her</td>
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<td>My partner really understands me and my needs</td>
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<td>I worry that partners won't care about me as much as I care about them</td>
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<td>Sometimes partners change their feelings about me for no apparent reason</td>
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<td>I'm afraid that once a partner gets to know me, he or she won't like who I really am</td>
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<td>My desire to be very close sometimes scares people away</td>
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<td>My partner makes me doubt myself</td>
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<td>I'm afraid that I will lose my partner’s love</td>
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<td>My partner only seems to notice me when I’m angry</td>
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<td>I talk things over with my partner</td>
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<td>I find that my partner(s) don't want to get as close as I would like</td>
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<td>I feel comfortable depending on partners</td>
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<td>I feel comfortable sharing my private thoughts and feelings with my partner</td>
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<td>I do not often worry about being abandoned</td>
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<td>I often worry that my partner doesn't really love me</td>
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<td>I usually discuss my problems and concerns with my partner</td>
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<td>I prefer not to show a partner how I feel deep down</td>
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<td>It makes me angry that I don't get the affection and support I need from my partner</td>
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<td>I find it relatively easy to get close to my partner</td>
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<td>I worry a lot about my relationships</td>
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<td>I find it easy to depend on partners</td>
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<td>When my partner is out of sight, I worry that they might become interested in someone else</td>
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<td>I am very comfortable being close to partners</td>
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<td>I worry that I won't measure up to other people</td>
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<td>I am nervous when partners get too close to me</td>
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<td>I find it difficult to allow myself to depend on partners</td>
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<td>I often worry that my partner will not want to stay with me</td>
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<td>Statement</td>
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<tr>
<td>I prefer not to be too close to partners</td>
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<td>It helps to turn to my partner in times of need</td>
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<td>I don't feel comfortable opening up to partners</td>
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<td>I tell my partner just about everything</td>
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<td>I get uncomfortable when a partner wants to be very close</td>
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Appendix G: The Penn State Worry Questionnaire

Please rate each of the following statements on a scale of 1 ("not at all typical of me") to 5 ("very typical of me")

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all typical of me</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>If I do not have enough time to do everything, I do not worry about it.</td>
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<tr>
<td>My worries overwhelm me.</td>
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<td>I do not tend to worry about things.</td>
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<td>Many situations make me worry.</td>
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<td>I know I should not worry about things, but I just cannot help it.</td>
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<td>When I am under pressure I worry a lot.</td>
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<td>I am always worrying about something.</td>
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<td>I find it easy to dismiss worrisome thoughts.</td>
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<td>As soon as I finish one task, I start to worry about everything else I have to do.</td>
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<tr>
<td>I never worry about anything.</td>
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<td>When there is nothing more I can do about a concern, I do not worry about it anymore.</td>
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<td>I have been a worrier all my life.</td>
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<td>I notice that I have been worrying about things.</td>
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<td>Once I start worrying, I cannot stop.</td>
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<tr>
<td>I worry all the time.</td>
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<td>I worry about projects until they are all done.</td>
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</table>
Appendix H: The DASS (Depression Anxiety and Stress Scales) Depression Scale

Please read each statement and select the answer which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Did not apply to me at all</th>
<th>Applied to me to some degree, or some of the time</th>
<th>Applied to me a considerable degree, or a good part of the time</th>
<th>Applied to me very much, or most of the time</th>
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<tbody>
<tr>
<td>I couldn't seem to experience any positive feeling at all</td>
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<td>I found it difficult to work up the initiative to do things</td>
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<td>I felt that I had nothing to look forward to</td>
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<td>I felt down-hearted and blue</td>
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<td>I was unable to become enthusiastic about anything</td>
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<td>I felt I wasn't worth much as a person</td>
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<tr>
<td>I felt that life was meaningless</td>
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Appendix I: Study Information Screen

AN INVESTIGATION INTO FACTORS ASSOCIATED WITH HEALTH CONCERNS

Information about the Study
You are invited to take part in an online study. The study is being carried out by Elizabeth Wearn, a graduate student at the University of Surrey, and is supervised by Dr. Laura Simonds. The study has received a favourable ethical opinion from the Faculty of Arts and Human Sciences Ethics Committee at the University of Surrey (Ref: 660-PSY-11)

Why is the study being conducted?
The aim of the study is to look at how people’s relationships with others and views of themselves might be related to their physical health concerns. We hope the results of the study may allow a better understanding of these areas, which in the longer-term may lead to more effective ways of helping people experiencing difficulties related to physical health concerns.

What will my involvement in the study be?
If you take part, you will be asked to do the following things online:

- Provide some basic information about yourself (like your age and gender)
- Fill out some questionnaires about yourself, on a variety of topics such as mood, relationships and health.

This will take about 20 minutes.

What will I get for participating in the study?
You do not have to take part in the study. However, if you do decide to take part, as a thank you for completing the survey you may choose to be entered into a prize draw to win one of four Amazon e-vouchers. The prize amounts are: £75, £50, £25, £10. If you wish to be entered into the draw, you will need to provide an email address. This will be stored separately from your responses. It will also be possible to submit your responses without giving an email address, if you prefer.
Confidentiality
You can withdraw from the study at any time simply by closing your web browser. After you have submitted your results they cannot be withdrawn (but they will be anonymised after collection). Responses will be analyzed on a group level, not individually. Therefore, no-one will contact you about any responses you give during the survey. My supervisor or I may also use the anonymised data for further analysis in the future. Since all the information you give will be anonymised, no-one reading reports from the research will know who has contributed to it. Data will be stored securely in accordance with the Data Protection Act (1998).

After taking part in the study
The study will involve you thinking about your feelings, moods and relationships but is not designed to be invasive or distressing. We do not anticipate that completing the study will be upsetting, but if you are worried about any of the issues it raises, please seek support if you need it. The following organisations might be helpful:

Mind
A mental health charity
Tel: 0300 123 3393; 9am – 6pm, Monday – Friday
Website: www.mind.org.uk
E-mail: info@mind.org.uk

SANE
A mental health charity
SANEline: 0845 767 8000; 6pm – 11pm daily
Website: www.sane.org.uk
E-mail: sanemail@sane.org.uk

The Samaritans
For people in crisis, contactable 24 hours a day, every day of the week.
Tel: 08457 90 90 90
Website: www.samaritans.org
E-mail: jo@samaritans.org

If you are a student or member of staff at the University of Surrey you can also contact:

University Centre for Wellbeing
01483 68 94 98
centreforwellbeing@surrey.ac.uk
9am – 5pm, Monday – Friday

Please take some time to think about whether you’d like to take part before continuing. If you have any questions at this point or during the study, you can contact either the principal investigator: e.wearn@surrey.ac.uk or her supervisor Dr Laura Simonds: I.simonds@surrey.ac.uk
Appendix J: Electronic Consent Screen

- I have read and understood the information provided about the study.
- I have been told what I will be asked to do and how long this is likely to take.
- I have been given the opportunity to ask questions about this and have understood any further information I may have requested.
- I understand that my participation is voluntary and that I am free to withdraw from the study before completing it without needing to justify my decision.
- I understand that the information I provide may be used in future studies and published reports, but that at all times I will not be identifiable. I understand that the data will be stored securely in accordance with the Data Protection Act (1998).
- I understand that I may choose to be entered into a prize draw only if I fully complete the online survey, and that if I choose to withdraw before the end my data will not be used. I recognise that I will be required to supply an email address if I wish to be entered into the draw.

I confirm that I have read and understood the above and freely consent to participating in this study.

[Potential participants were then presented with two options, ‘Yes’ or ‘No’. If they selected ‘Yes’ they were then able to move on to complete the survey.]
Appendix K: Debrief screen shown to participants at the end of the survey

Thank you very much for taking part in this study

It is a very normal experience to have concerns about your physical health, and we would expect everyone to have them sometimes. However, for some people these concerns can become more problematic.

The aim of this study is to investigate whether certain factors might be associated with higher levels of concern or anxiety about people's physical health, and how these factors might relate to each other. These factors include patterns of relating in people's close relationships, and some of the views people have about themselves and the world. It is hoped that a better understanding of these areas might play a part in developing more effective ways of helping people experiencing difficulties related to physical health concerns.

If you have any queries about the study, please e-mail the principal investigator (e.wearn@surrey.ac.uk) or the study supervisor (l.simonds@surrey.ac.uk).

If you would like to know the key findings of the study you can request this information via e-mail in August 2012.

If you are worried about any of the issues raised by the study, please seek support if you need it. The following organisations might be helpful:

**Mind**
A mental health charity
Tel: 0300 123 3393; 9am – 6pm, Monday – Friday
Website: www.mind.org.uk
E-mail: info@mind.org.uk

**SANE**
A mental health charity
SANElife: 0845 767 8000; 6pm – 11pm daily
Website: www.sane.org.uk
E-mail: sanemail@sane.org.uk
The Samaritans
For people in crisis, contactable 24 hours a day, every day of the week.
Tel: 08457 90 90 90
Website: www.samaritans.org
E-mail: jo@samaritans.org

If you are a student or member of staff at the University of Surrey you can also contact:

University Centre for Wellbeing
01483 68 94 98
centreforwellbeing@surrey.ac.uk
9am – 5pm, Monday – Friday

Benefits of this research
It is hoped that the results from this research will contribute to improving understanding and treatment of health anxiety. The study you have taken part in builds on previous research. Thank you again for your participation.
Appendix L: Ethics Approval Letter

26th November 2011

Dear Elizabeth

Reference: 660-PSY-11 (with conditions)
Title of Project: An Investigation into factors associated with health anxiety in a community sample

Thank you for your submission of the above proposal.

I am pleased to advise that this proposal has received a favourable ethical opinion from the Faculty of Arts and Human Sciences Ethics Committee provided that the following conditions are adhered to:

1. In the information sheet for participants and the invitation email / online advert, it is not specified how long it will take to complete the study. This information should be included.

2. In the fifth bullet point of the consent form, when discussing issues of confidentiality, reference to the Data Protection Act (1998) should be made as it is in the information sheet.

3. In the invitation email / online advert, the University of Surrey Ethics Committee is referred to. This should be amended to the Faculty of Arts and Human Sciences Ethics Committee at the University of Surrey.

If there are any significant changes to your proposal which require further scrutiny, please contact the Faculty Ethics Committee before proceeding with your Project.

Yours sincerely

Dr Adrian Coyle
Chair